'Farm holding redistribution' ratio: Official land redistribution data in search of corroborating evidence

Dy, Kenneth

Academia Sinica – Institute of Economics

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Dy, Kenneth Bicol

[a] *Academia Sinica – Institute of Economics*

Abstract

The accomplishments of the Comprehensive Agrarian Reform Program (CARP) have been criticised for inaccurately portraying the land redistribution in the Philippines. Evidence has largely been anecdotal in nature. Examining the breakdown of the accomplishments as to region and type may reveal several important findings that aggregate accomplishment numbers conceal. But cross-validating official redistribution results with data from a different government agency offers an even more unique way to prove or disprove the claims of agrarian reform authorities. This study complements earlier investigative studies by examining whether the decennial Census of Agriculture and Fisheries can offer corroboratory or contradictory evidence to published accomplishments. A 'farm holding redistribution' ratio and 'land use change' ratio were computed for this purpose, and analysed together with regional average farm size, farm holding Gini, tenure arrangements across time. Furthermore, it looks at the change in farmland distribution before and during the CARP implementation. After scrutinising the official accomplishments and CAF data, the findings reveal that indeed, CARP accomplishments failed to translate into landownership for small farm operators. However, there is a dim reflection of achieving its stated goals in regions that implemented more compulsory acquisition and in continuing past programs prior to the enactment of CARP.

Keywords: CARP, agrarian reform, land redistribution, CARP

1. Introduction

The 2018 poverty statistics from the Philippine Statistics Authority (PSA) show that farmers are the poorest people in the country. Agrarian reform is still part of the government strategy to address this (Philippine Development Plan 2017–2022). The Philippine Comprehensive Agrarian Reform Program

⋆This paper is pieced together from the author's PhD thesis (chaps. 2.7 and 3.1) submitted in the University of Hong Kong in 2020, and thereafter refined. The CARP and CAF data presented here are for 2017 and 2012, respectively. As of this version, there is already 2018 data for CARP and none for CAF. The conclusions here stand.

Email address: ken.dy04@gmail.com (Dy, Kenneth Bicol)

(CARP) include land redistribution, along with tenure security, legal assistance and a host of farmer development programs. Despite missing its deadline three times, with about 2% of its land redistribution target left to be finished, the Department of Agrarian Reform (DAR) aims to complete CARP after more than three decades by 2022, i.e. by the end of the current Duterte presidency. However, many scholars, notably Borras Jr. (2007), have provided various anecdotal evidence to show that most of the CARP accomplishments are either non-redistributive or outright fake.

The aim of this study is to complement the anecdotal evidence in the literature (Sec. 2) by providing a novel means of aggregate verification or falsification of the official data. The decennial Census of Agriculture and Fisheries (CAF) conducted by PSA is an important corroborating (or otherwise) evidence that can support (or not) the data from DAR. Although the census is not free from some of the criticisms levelled against DAR data, it does overcome some of them. For instance, PSA doesn't have the same incentives as DAR to pad the data in order to bolster accomplishment ratings. Also, if the awarded land is subsequently returned to the previous owner, the new ownership distribution should be reflected in the census after one or two decades. Specifically, this study examines the changes in tenure status (Sec. 3), average farms size (Sec. 4), area of small and large farms (Sec. 5), and farm holding Gini (Sec. 6) by region across time. Moreover, to facilitate the regional comparisons, a 'farm holding redistribution' ratio and 'land use change' ratio were computed. These can be easily computed from the CAF.

Before going to the CAF data though, this study first breaks down the official accomplishment data itself. CARP is a combination of new and old programs, and each type has different targets. Unbundling the aggregate numbers per region and type, can reveal which programs actually delivered, who benefitted the most and why. This will help to assess the CARP as whole on whether it has achieved its stated goals.

Readers interested in the history of agrarian reform in the Philippines may read the various FAQs of DAR, Hayami et al. (1990), and de los Reyes (2016).

For a systematic treatment of various aspects of land reform, readers may refer to Lipton (2009).

2. Slicing through CARP accomplishments

The Comprehensive Agrarian Reform Law (CARL) § 4 has two main categories: public and private agricultural lands; and lands suitable for agriculture that belong to the public domain.[1] The DAR is in charge of private lands, while the Department of Environment and Natural Resources (DENR) is in charge of those in public domain, known as Alienable and Disposable lands.[2] Probably for convenience, DAR and DENR employs the term Land Acquisition and Distribution (LAD) for their overall target, even though some of them are merely to be distributed without prior acquisition being necessary.

Focusing on DAR, reform areas are divided into private and public agricultural lands (Figure 1). Private Agricultural Lands (PAL) consists of Compulsory Acquisition (CA) of lands in excess of the retention limit as set out in CARL § 6; Operation Land Transfer (OLT) representing the balance of the 1972 Presidential Decree (PD) 27 under President Marcos; Voluntary Land Transfers or Direct Payment Scheme (VLT/DPS) and Voluntary Offer-to-Sell (VOS), which are the market-led agrarian reform components of CARP; and the GFI category. The last one includes agricultural lands foreclosed by both government financial institutions and the Presidential Commission on Good Governance. The latter was established to confiscate assets amassed by Marcos and his cronies.

Non-Private Agricultural Lands (Non-PAL) consists of Government-Owned Lands (GOL) and *Kilusang Kabuhayan at Kaunlaran* (KKK; Livelihood and

[1]The enabling law that supports CARP is the Comprehensive Agrarian Reform Law (CARL) or RA 6657. This article will refer to CARL only when there is a specific legal provision being discussed.

[2]DENR distributes these A&D lands by issuing Free Patents and Homestead Patents. This department also awards stewardship over forested areas suitable for agro-forestry by issuing Certificates of Stewardship Contract (CSCs) for individuals, or Community-Based Forest Management Agreements (CBFMAs) for groups.

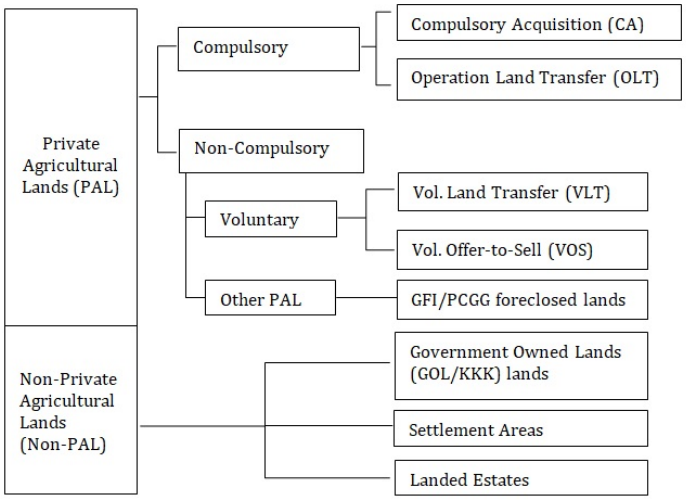

Figure 1: Types of Land Acquisition and Redistribution (LAD) under DAR

Development Movement), settlement areas, and landed estates (LE).[3] GOL are lands under public domain that were placed under the charge of DAR. A bulk of these GOL lands are KKK lands earmarked during the Marcos regime for building self-sufficient communities under Executive Order (EO) 715. Settlement areas are resettlement projects inherited from predecessor agencies (de los Reyes, 2016). Landed estates are defined in DAR Administrative Order (AO) 1 s. 1990 as '*former haciendas or landholdings of private individuals or corporations which have been acquired by the Government under different laws, for redistribution and resale to deserving tenants and landless farmers.*' This actually includes the balance of the 1904 Friar Lands Act, the 1955 Republic Act (RA) 1400, and the 1963 RA 3844 (Borras Jr., 2007; de los Reyes, 2016).

Table 1 shows that as of January 2017, a total of 4.77 million ha had been

[3]In 1983, by virtue of Proclamation No. 2282, Marcos reclassified some lands under public domain as alienable and disposable lands for agriculture and resettlement purposes. DAR assumed these lands during Corazon Aquino's presidency by virtue of EO 407 (as amended by EO 448 s. 1991 and EO 506 s. 1992).

'redistributed'; that's an 88% accomplishment rate. After 2009, CARP became CARPER, which again expired in 2014. Technically, however, what ended was the issuance of new Notices of Coverage (NOCs), so redistribution of PALs that have been issued NOC may still continue (RA 9700 CARPER § 30). And continue it did because by the end of 2014, 14% or 763,000 ha remained to be redistributed. A news report a quarter before the deadline said that out of these, about 206,000 ha have no NOCs yet (Ranada, 2014). In his end-of-term report, however, former DAR Secretary de los Reyes (2016, 28) says that only 67,827 ha have not been issued NOCs.

At the opening of 2016, the LAD balance included some 9,801 holdings (about 78,569 ha) which had no titles; and only half of this was workable (ibid., 17). Reform advocates would be glad to know though that 52% of LAD from 2014 to 2017 were CA lands, mostly in the Negros Island, Soccsksargen, Calabarzon and Bicol Regions. The other categories of LAD also continued after 2014. In fact, President Duterte signed EO 75 in February 2019, which directed all government bodies to look for unused agricultural land in their possession to be redistributed under the GOL category. It is unclear whether this means additional working scope for DAR or whether this will be accomplishment that's deductible from the current overall LAD balance.[4] If it is the latter, then CARP can reach full accomplishment without even redistributing the remaining PAL.

[4]Back in 1997, a year before CARP's first deadline, VLT and Landed Estates already surpassed the 100% accomplishment rate (see Polestico et al., 1998, Table 4, p.38). It would seem that accomplishments in one category is interchangeable with those in another.

Table 1: DAR LAD official scope and accomplishments by region as of December 2017

	Region	Scope	Net Area Distributed (Area in hectares covered by issued EP/CLOA)										Total Net Area Distributed
			Private Agricultural Land (PAL)						Non-PAL				
			OLT	GFI	VOS	CA	VLT	Sub -Total	SETT	LES	GOL/ KKK	Sub -Total	
	Philippines	5,425,343	596,203	172,313	656,169	382,646	836,017	2,643,347	816,967	83,547	1,226,122	2,126,636	4,769,983
LUZON	CAR	105,774	1,299	1,241	1,172	440	23,624	27,775	-	-	74,722	74,722	102,496
LUZON	Ilocos (I)	144,516	31,359	1,842	8,943	1,657	74,487	118,288	1,970	301	22,951	25,222	143,510
LUZON	Cagayan (II)	417,740	79,611	9,770	51,301	13,061	55,729	209,471	46,216	4,581	106,645	157,442	366,913
LUZON	Central Luzon (III)	449,788	215,108	6,851	29,716	39,607	36,053	327,334	16,248	59,337	28,618	104,202	431,537
LUZON	Calabarzon (IV-A)	218,503	15,945	1,271	30,773	50,634	44,817	143,440	26,908	5,521	14,088	46,517	189,957
LUZON	Mimaropa (IV-B)	190,936	16,018	2,788	14,009	21,431	47,569	101,814	14,992	5,124	58,484	78,600	180,414
LUZON	Bicol (V)	413,545	51,795	17,907	55,487	50,943	91,930	268,063	16,814	3,291	37,205	57,310	325,373
VIZ	VI - Western Visayas	257,651	31,136	35,035	36,529	19,212	32,578	154,490	19,558	74	47,680	67,311	221,802
VIZ	Central Visayas (VII)	84,749	9,273	2,773	7,776	12,790	6,104	38,716	13	-	39,077	39,089	77,805
VIZ	Negros Island Region	427,656	21,136	30,502	118,917	47,004	8,598	226,156	10,341	3	60,487	70,830	296,986
VIZ	Eastern Visayas (VIII)	494,005	20,942	8,376	24,290	34,813	18,262	106,683	115,925	615	210,525	327,064	433,747
MINDANAO	Zamboanga (IX)	238,273	10,672	8,299	18,300	18,645	88,592	144,510	21,124	2,983	60,258	84,365	228,874
MINDANAO	Northern Mindanao (X)	362,166	16,965	3,238	18,674	15,164	91,680	145,722	107,608	-	87,982	195,590	341,312
MINDANAO	Davao (XI)	261,517	8,696	7,503	69,667	25,858	62,125	173,848	35,625	-	39,355	74,980	248,828
MINDANAO	Soccsksargen (XII)	731,098	34,957	14,152	111,228	18,776	55,416	234,530	287,871	212	164,878	452,960	687,490
MINDANAO	Caraga (XIII)	294,654	6,545	3,562	31,914	10,387	30,958	83,366	19,272	1,474	167,231	187,977	271,343
MINDANAO	ARMM	332,773	24,745	17,203	27,475	2,224	67,495	139,142	76,484	31	5,938	82,453	221,595

Source: Philippine Statistical Yearbook 2018, Table 5.12

The official numbers have been hailed by many, despite its delay, as being in good progress. However, it is not without caveats. Borras Jr. (2007) devotes his third chapter to unravel the false facade of CARP LAD accomplishments. First, commercial farms enjoyed 10 years of uninterrupted operations before they were subject to expropriation (CARL § 11). One wonders how they could've been exempted for the whole duration that CARP was mandated to have been completed. They were legally required to cede their land on the year that CARP was supposed to have finished.

Second, there is the quintessential market-led agrarian reform (MLAR) built in to CARL §§ 20 and 21—Voluntary Land Transfers (VLTs)—whereby landowners and peasants can negotiate the terms of the transfer privately, although facilitated and monitored by DAR officials. This is also enshrined under the Constitution Art. XIII § 4. In principle, the law states that VLT arrangements must be more favourable to the farmer than what the government could otherwise offer them (CARL § 20b). However, Borras Jr. (2007, 121–131) summarizes how landowners use VLT to circumvent CARP: (a) paper beneficiaries, (b) lease-to-own scheme, (c) leaseback agreements, (d) joint venture agreements and (e) profit-sharing agreements. Former DAR Secretary de los Reyes (2016, 94 & 124) admitted that VLT has been used as an escape route by landowners, allowing them to return to "business-as-usual". Such disclosures by the highest authority within the DAR indicate the department's lack of political leverage. The report from (WB 2009, 3 & 225–242), however, shows that VLTs have not completely short-changed the farmers. Data as of December 2017 shows that most of the VLT transactions happened in Regions I, V, IX and X. Note that except for Region V, the other three have accomplishment rates beyond 90%. Region I, where more than half of the LAD accomplishments are VLT, is already 99% accomplished.

Third, corporations were allowed under CARL § 31 to choose Stock Distribution Option, which could exempt them from compulsory redistribution. But Borras Jr. (2007) explains that this option has not been widely exercised apart from two big corporations, Hacienda Luisita of the Aquino family and Arsenio

A. Acuña Corporation.

Lastly, another form of MLAR built into CARP is the VOS category, whereby a landowner can *willingly* sell his farm to the government in exchange for an additional compensation (§ 19). Unfortunately, this category was used by landowners to sell unproductive farms for inflated prices (Putzel, 1990; Borras Jr., 2007). For example, Elvinia (2011, 353) found that rubber plantation owners in Basilan and Zamboanga Peninsula preferred VOS since anyway the trees were reaching the end of their productive capacity. Region XII is also a major producer of rubber in the Philippines. This may be the reason why VOS is also high in Region XII (see Table 1). Furthermore, VOS was also used to sell fake titles to DAR (Borras Jr., 2007, 161). However, many of the VOS accomplishments were originally cases of compulsory acquisition (ibid., 187). After unsuccessfully evading expropriation, some landowners *voluntarily* sold their land. It was their second-best option.

In the early years, OLT lands were the main accomplishment under CARP. Then from 1990 to 1996, accomplishments were mostly settlement lands and GOL/KKK lands. In fact, the highest LAD achievements were in 1993 and 1994. Most of these were under those two categories and mostly through collective CLOAs. But from 1996 to 2009, VLT became the preferred mode of land redistribution. Although CARPER (RA 9700) was supposed to have ended VLT transactions, those that were already being processed by 2009 could still be distributed after (de los Reyes, 2016). The non-PALs and VLT lands don't require compensation from the government, so they presented less challenges. And when the department decided to ramp up its efforts to acquire PAL, they realised that many of their staff, being unfamiliar with the process, were incapable (assuming they were willing).

Unsurprisingly, De Los Reyes himself admits that the easiest ones to distribute were those under GOL/KKK, settlements and VLT; while the most difficult ones were those placed under CA. However, GOL can also have problems as in the case of the state University of Southern Mindanao. KKK and settlement lands could also run into conflict with ancestral domain claims like the

case of *Buhid-Mangyan* in Oriental Mindoro claiming 1,500 ha land that was also for KKK and the *Lumad* indigenous group claiming the Columbio Settlement in Sultan Kudarat.[5] Furthermore, these GOL/KKK and settlement lands are usually far flung locations without any infrastructure; in contrast to LEs, which were more productive since these were former haciendas (WB 2009). Borras Jr. (2007, 137) provides examples of what he calls "voluntary non-installation" by farmers who refused to resettle on such remote areas. Going back to Table 1, one can see that indeed, the bulk of accomplishments are in GOL/KKK lands, although PAL redistributions are slightly more than Non-PAL accomplishments. Among the PALs, the voluntary transactions take up most of the redistributions: VLT at 32% and VOS at 25%. The CA category is only 14% of the PAL distributed, which is a sheer 8% of the total LAD accomplishment. The largest share of total LAD was supposed to be CA. On the other hand, as of 2017, VLT and GOL both overshot their supposed share in LAD accomplishment by 11 percentage points.[6] It would seem that goals per type are substitutable among each other.

Looking at the regional breakdown as of 2017 on Table 1, the lowest accomplishment rate is in ARMM, where LAD was mostly in the form of either settlement areas or VLT transactions. ARMM is followed by Negros Island Region and Bicol. The total net area distributed per region is somehow encouraging as 10 out of 17 regions have gone beyond 90% accomplishment rate. The highest are CAR and Ilocos Region. However, looking at the numbers per category tells a different story. CAR has close to zero percent CA redistributed; 73% of its LAD accomplishments are GOL/KKK. Ilocos Region, where Marcos

[5]Philippine CARL § 9 protects the communal rights of the indigenous peoples over their ancestral lands. Nine years later, the Indigenous Peoples' Rights Act of 1997 (RA 8371) was approved. There are instances of lands for distribution to peasants under CARP overlapping with those to be granted to aborigines.

[6]Data on target per category are available in Polestico et al. (1998). DAR no longer publishes this information now for reasons we can only conjecture. But it would also seem that there are currently no clear targets per category; merely a target for overall LAD.

hails from, also performed badly in CA. And 52% of its total LAD accomplishments are through VLT transactions. In fact, looking at all the regions with accomplishments beyond 90%, their LAD mainly came from VLT or GOL/KKK lands, except for Region III (where half came from OLT) and Region XI (where most came from VOS). The only region where CA is the highest form of LAD among the PAL redistributed is Calabarzon, especially Batangas and Quezon provinces.[7]

There are some other observations worth noting on Table 1. First, regions with the lowest CA relative to total accomplishments are Cagayan Valley (where OLT is quite high due to corn lands) and regions in Mindanao (where most of the settlement areas are). Second, not surprisingly, in Region III known as the rice basket of the Philippines, half of the total LAD was under OLT.[8] Third, around 71% of LE accomplishments are from Region III. It had plenty of friar lands and it was the major pilot area of the Magsaysay and Macapagal reforms since many of the *Huk* rebels were from there. Fourth, Negros Island Region has the most VOS transactions—more than half of its PAL accomplishments. Borras Jr. (2007) explains that most of the bankrupt sugar plantations were in Negros Occidental. They were *forced to voluntarily* sell their land. He also suspects that many of these VOS lands were leased back to the previous owner. Fifth, about 57% of settlement lands are in Mindanao as expected given the history of the settlement projects there. Most of these are in Region XII, especially in North Cotabato and Sultan Kudarat.

In terms of ARBs, CARP has been doing fine, but this statement must be qualified (Table 2). As of 2017, 2.8 million families have received land. This is about 72% of the original target of 3.9 million ARBs. However, about a third are roughly equally shared by Central Luzon, Western Visayas and Soccsksargen. This is quite revealing since we know which type of redistribution took place

[7]Data on the LAD accomplishment of Region IV-A by province as of 2015 may be requested from the author.

[8]The OLT of the 1972 agrarian reform focused on redistributing corn and rice lands only.

in these areas. Central Luzon was mostly OLT and had the highest share of redistributed LE; a fifth of the GFI lands were in Western Visayas, where two of the Marcos' prominent cronies own vast properties; and Soccsksargen had the highest share of settlement areas. Therefore, it may be inferred that most of the CARP benefited by virtue of past programs (Region III under OLT and LE), by getting back lands from the enemies of Aquino family (Region VI under GFI) and by supposedly less intrusive settlement areas. On the other hand, Region IV-A and V, where most of the CA was implemented, ARBs account for 11.3%.

Table 2: Number of farmer beneficiaries 1972–2017

	Region	**ARB**	**%**
	Philippines	2,841,680	100.0
LUZON	CAR	81,600	2.9
LUZON	Ilocos (I)	119,394	4.2
LUZON	Cagayan Valley (II)	212,163	7.5
LUZON	Central Luzon (III)	284,631	10.0
LUZON	Calabarzon (IV-A)	124,739	4.4
LUZON	Mimaropa (IV-B)	130,835	4.6
LUZON	Bicol (V)	196,886	6.9
VIZ	Western Visayas (VI)	319,175	11.2
VIZ	Central Visayas (VII)	147,890	5.2
VIZ	Easter Visayas (VIII)	197,044	6.9
MINDANAO	Zamboanga (IX)	131,348	4.6
MINDANAO	Northern Mindanao (X)	218,607	7.7
MINDANAO	Davao (XI)	180,554	6.4
MINDANAO	Soccsksargen (XII)	289,955	10.2
MINDANAO	Caraga (XIII)	136,298	4.8
MINDANAO	ARMM	70,561	2.5

Source: Agricultural Indicators System: Redistribution of land Report No. 2018-8

Table 3 shows the DAR LAD accomplishments per presidential term (roughly). Ramos redistributed the most lands based on both absolute terms and average accomplishments per year. However, most of these are settlements and GOL/KKK lands, while VOS and VLT are not far behind either. President Corazon Aquino is a far second in terms of average area of land redistributed per year. And this was mostly due to OLT, the program of her predecessor. To her credit, she did continue her political adversary's program, where many other politicians would have just stopped implementation and start a new one. Her son though had the lowest CARP average accomplishment per year. And considering that CARPER was supposed to end in 2014, by the time of the younger Aquino's incumbency, more than half of the accomplishments were still settlement areas and GOL/KKK lands, when they should have been wrapping up the distribution of CA lands. As for Estrada and Arroyo, voluntary redistributions were at their peak; 45.1% and 52.1% of total LAD, respectively. Compulsory Acquisition was mostly done during Ramos, especially in 1996 and 1997, probably hoping to chase the first CARP deadline in 1998. But in terms of percentage to total LAD, compulsory acquisition was highest during Estrada and Benigno Aquino III presidencies.

After all the LADs have been accomplished, one of the 'major unfinished business' for DAR is to breakdown the collective titles they have awarded (see de los Reyes, 2016, 12). In the law, a collective certificate of land ownership award (CCLOA) was supposed to be awarded only when 'it is not economically feasible and sound to divide the land.' (CARL § 29) Presumably, this refers to economies of scale.[9] However, De los Reyes (2016, 12) divulged, '*Most of the collective CLOAs were issued in the 1990's and the main reason for issuing collective*

[9]To explicitly recognise this possibility and incorporate provisions for it in agrarian legislation is something unique, at least in 1988. To reform advocates, this is another political manoeuvre by landowners. But objectively speaking, this is a fair provision that allows for alternative arrangements depending on the nature of the farm because a small-size operation is not suitable for all types of agricultural activities. Therefore, it should not be entirely discredited as a loophole, and must be appreciated as part of the comprehensiveness of CARP.

Table 3: DAR LAD Accomplishments per presidential term

Period covered	**C. Aquino** Jan 1987- Jun 1992	**Ramos** Jul 1992- Jun 1998	**Estrada** Jul 1998- Dec 2000	**Arroyo** Jan 2001- Jun 2010	**B. Aquino** Jul 2010- Dec 2015
Total hectares	848,515	1,900,039	333,389	1,031,169	535,555
PAL	471,621	955,243	228,622	708,988	229,234
OLT	358,915	142,847	18,708	40,082	18,555
GFI	22,938	105,498	11,906	26,292	4,757
VOS	55,079	257,373	76,896	219,383	41,870
CA	13,952	120,828	47,767	105,015	69,476
VLT	20,737	328,697	73,345	318,217	94,575
Non-PAL	376,894	944,796	104,767	322,180	306,322
Settlements	208,792	356,763	35,276	104,747	62,573
Landed Estates	25,781	41,201	971	2,117	387
GOL/KKK	142,321	546,832	68,520	215,316	243,362
Average per year	154,275	316,673	133,356	108,544	97,374

Source: Requested from DAR

CLOAs was to facilitate the distribution of land to beneficiaries and not really to achieve economies of scale.' It expedited the process by postponing subdivision surveys, inspection, verification, and DENR approval. But DAR, upon marking them as accomplishments, moved on to the remaining LAD balance. About 2.2 million hectares of awarded lands from 1972 to 2015 were under CCLOA (ibid.). At the beginning of 2016, barely half of these have been subdivided. The provinces with the most CCLOA are Negros Occidental, North Cotabato and Bukidnon. The first province is where you have the biggest sugar farms, and the last two are for pineapple and banana plantations.

About a third of the CCLOAs are from KKK/GOL lands, followed by voluntary LADs and settlement lands (de los Reyes, 2016, 14). The non-PAL under collective titles are so because most of them had no prior occupants. On the other hand, plenty of voluntary LADs are under CCLOAs because many of them involved farmer cooperatives that made leaseback agreements or some other

agreement with the previous landowners. Farmers are usually at a disadvantage since they have low bargaining power (ibid., pp.93–95) and are unfamiliar with legal jargons either in English or Tagalog (FAO 2016). Furthermore, the Secretary laments, instances where individual ARB names are not annotated on the CCLOA, grant farmer leaders a lot of power.

Most recently, the DAR issued AO 2 s. 2019 which provides the guidelines for subdividing CCLOAs. They sought to address disagreements among ARBs over whether to parcelize or not; disputes regarding equitable allocation; access roads and other common use areas; death of the original ARB; and firming up the list of ARBs (§§ 3, 9 and 10). Regarding the order of priority, CA and VOS lands are to be subdivided first; followed by settlement lands and GOL/KKK; then LE; and finally, VLT lands (ibid., § 6). If there is any logic in this order, it doesn't seem to have factored in the percentage distribution of CCLOAs. The category with the largest portion of CCLOA placed second; the next largest was on last priority; and the two categories with smallest portion were put in the first and fourth place.[10]

3. Farm operation by tenure status

Sections 3 to 6 will use data from the Census of Agriculture and Fisheries (CAF). Before proceeding, there are several caveats to bear in mind. The definition given in the explanatory notes of the 2012 CAF reads,

> An agricultural holding/farm is any piece or pieces of land used wholly or partly for any agricultural activity such as growing of crops, tending of livestock/poultry and other agricultural activities and operated as one technical unit by one person alone or with others regardless of title, legal form, size or location. An agricultural holding/farm operated as one technical unit means that the piece/s of land is/are operated under single management and that the financial

[10] Breakdown of per category CCLOA are available in De los Reyes (2016, Figure 6, p.14)

> resources needed for the operation of the agricultural holding/farm come from the said management. *(underlines added by author)*

First, holdings registered under each range of farm size are not necessarily wholly-owned. Hence, for example, the 3.16 million farmers in 2012 whose holdings are below 1 hectare are not necessarily owners. Tenant farmers are included in that figure.[11] Therefore, an analysis using only this set of data refers to the number and size of operations or holdings, and cannot imply much on the ownership structure. **Second**, agricultural farms/holdings include those used for livestock/poultry or some other agricultural activity. **Third**, the actual operator of a farm may be residing in one region, while the actual farm is in another region. The regional data presented here are all based on residential location of the owners, and not of the farm.[12]

Table 4 shows the area of farm holdings by tenure from 1971 to 2012. After the DAR CARP scope validation project, the target of DAR for private agricultural land was approximately 3 million ha. This is about 30% of total farm area in 1991, the nearest census date to the enactment of CARL.

Throughout the implementation of PD 27 and CARP, except in 1991, more than half of the farming area is owned. But from 1971 to 2012, farm area diminished by 1.2 million ha, and about 93% of this shrinkage was attributable to owned farms, which dwindled by 1.14 million ha. The 'partly-owned' category is a misnomer. It doesn't mean that the operator is a co-owner or has less than full Torrens title over the farm. A farm holding under this category consists of several parcels, some of which are owned and some of which are under another form of tenure. Hence, mixed tenure might be a better name for this cate-

[11] Early in the Cold War, capitalist countries shifted their focus from land ownership to farm operations and security of tenure (Tuma, 1965, 229). Maybe that's why the available statistics highlight farmland holdings or operations, instead of ownership.

[12] Data does not allow a presentation of the same data based on the actual location of the farm. One reason is that an operator may have several parcels in different regions. However, parcels outside the region of the operator are less than one percent in terms of both number and area (see CAF 2012).

gory. But majority of the parcels within holdings under mixed tenure arrangements are, in fact, owned. 'Tenanted lands' refer to share tenancy system, while 'leased/rented lands' refer to lease contracts under fixed rental payments.[13] The 'owned' category includes fully-owned and other owner-like arrangements. About 75% of these are actually fully-owned.

Looking at the 2012 regional breakdown in Table 4, Region IV-A has the highest percentage of area under tenancy arrangement at 30.6%, even though this region had the highest percentage of lands redistributed under compulsory acquisition. The percentages of tenanted farmlands in Batangas and Quezon province, which had the highest CA accomplishments, are also above average at 25% and 34%, respectively. In fact, 23% of the total agricultural production value in Region IV-A in 2018 was from rice. This is significant since the main target of agrarian reform, especially prior to CARP, are tenanted lands.

Another point worth noting here is Region I. About 24.3% of total farm area in Ilocos is tenanted. The agrarian reform of President Marcos, whose family hails from this region, aimed at breaking down rice lands. And we know from 2018 data that about 48% of Region I's value of crop production comes from rice, and that 63% of its harvested area was dedicated to the same; whereas the national average stood at 39% and 34.4%, respectively. The agrarian reform of Marcos (PD 27) was signed in 1972 and is being implemented until today under OLT category of CARP. But in fact, more than half of the LAD accomplishments

[13]The definitions of 'tenanted' and 'leased/rented' lands in CAF present some confusion. The former is supposed to include both share tenancy and leasehold tenancy, which is normally understood as fixed lease tenancy. This makes the definition of 'tenanted' lands overlap with 'leased/rented' lands. The current staff at PSA in charge of CAF is under the opinion that 'tenanted' lands only include share tenancy system. The introduction of 'leased/rented' category was due to CARP, which may also have something to do with the sudden jumps in the data from 1980 to 1991 on Table 4. The staff at PSA concurs with these opinions. The rapid rise in partly-owned farms (2.24 million ha) is uncannily matched by a corresponding decline in owned, tenanted and other forms of tenure (also 2.24 million ha). Owing to this conundrum, the study will only focus on owned farms. Comments made with regard to 'tenanted' lands must be read with caution.

Table 4: Area of Farm Holdings by Tenure and Region, 1971–2012

Year	Region	Area of Farm Holdings (in hectares)					
		Total	Owned	Partly-owned	Tenanted	Leased/ Rented	Other Forms
1971	Philippines	8,493,735	5,345,429	930,840	1,546,722	.	670,744
1980	Philippines	9,725,155	6,496,200	986,700	1,806,900	.	435,400
1991	Philippines	9,974,871	4,855,059	3,226,083	1,284,179	252,689	356,861
2002	Philippines *	9,670,793	4,896,765	3,105,017	1,115,283	202,518	328,664
2012	Philippines	7,271,446	4,209,128	1,203,362	1,071,114	308,601	479,242
	NCR	20,271	18,417	847	378	256	373
	CAR	138,817	80,885	43,937	7,165	2,300	4,530
	Ilocos (I)	218,657	86,867	72,537	53,088	4,801	1,364
	Cagayan Valley (II)	480,957	280,564	143,822	35,711	7,456	13,404
	Central Luzon (III)	446,176	265,214	75,007	61,157	16,733	28,065
	Calabarzon (IV-A)	497,668	254,518	55,556	152,528	12,882	22,184
	Mimaropa (IV-B)	445,567	264,478	75,665	60,835	15,860	28,729
	Bicol (V)	774,225	414,170	140,259	177,087	17,507	25,202
	Western Vis. (VI)	467,788	253,749	98,994	49,365	36,724	28,956
	Central Vis. (VII)	292,505	158,760	67,222	44,091	6,982	15,450
	Easter Vis. (VIII)	453,642	234,485	100,169	102,079	7,158	9,751
	Zamboanga (IX)	448,199	323,883	35,648	71,071	4,874	12,723
	Northern Min. (X)	565,232	286,723	77,291	66,330	39,815	95,073
	Davao (XI)	575,560	372,033	47,378	49,553	30,017	76,579
	Soccsksargen (XII)	638,266	393,919	95,843	67,133	17,801	63,570
	Caraga (XIII)	461,389	240,276	54,412	46,836	78,333	41,532
	ARMM	346,524	280,183	18,774	26,709	9,101	11,757

Source: PSA—OpenStat

* *There is a discrepancy in the total published in OpenStat.*

in Region I are VLT. From 1971 to 2012, owned farms decreased in Region I from 111,137 ha to 86,867 ha; that comprises 31% of the total decrease in farm holdings in Region I. Marcos and his family, which still reigns over the region, were as much incapable (unwilling) as the Aquino family was to disturb longstanding institutions in their own backyard.

The discussion thus far covered changes in tenure status only. Whether these pertain to small farmers or large farm operators is another question. About 60% of small farms (those below 3 ha) are owned farms. For large farms (those

beyond 25 ha), although majority is still owned, there is a shift towards less tenancy and more rented farms. Moreover, almost a fifth (17%) of large farms are under this sundry category, which only has a negative definition in the Census notes.[14] This reflects the capacity of larger farms to concoct other legal suits that are tailored to particular scale and nature of their farming operations.

From the point of view of tenancy type, most of the owned and tenanted farms are small farms; 49% and 53%, respectively. On the other hand, large farms have the majority of the rented lands (51%).

4. Changes in average farm size

Table 5 displays the national-level data on number of farm holdings, their absolute and average area, as well as their growth rate, classified by size of holding from 1960 to 2012.

An initial glance at Table 5 seems to show signs that large farms are being parcelled out. Between 1971 and 2012, the number and area of small farm operators (below 3 ha) increased and grew, while those beyond 3 ha decreased and shrank. However, a more careful scrutiny tempers this preliminary observation.

First, inspecting the census-on-census growth rate, it seems that increases in farm area of small operators occurred mostly from 1971 to 1991, which corresponds to the period of the implementation of the Marcos agrarian reform. Afterwards, during most of the CARP implementation, the growth in farm area of holdings below 1 ha markedly became slower; and those with 1–3 ha even shrank especially from 2002 to 2012.

[14] Data on farm distribution and average size by tenure and by size of holding may be requested from the author.

Table 5: Number, area, growth rate and average area of farm holdings by size of holding, 1971–2012

		In Hectares and Number ('000)				
		1971	**1980**	**1991**	**2002**	**2012**
Number of Farms ('000)	TOTAL	2,354	3,420	4,610	4,823	5,563
	< 1.0 Ha	319	776	1,685	1,936	3,163
	1.00–2.99 Ha	1,118	1,578	1,968	1,975	1,779
	3.00–4.99 Ha	558	588	523	509	371
	5.00–9.99 Ha	244	360	325	303	194
	10.00–24.99 Ha	101	104	96	89	50
	> 25.00 Ha	14	15	13	12	6
Area of Farms ('000 ha)	TOTAL	8,494	9,725	9,975	9,671	7,271
	< 1.0 Ha	162	369	728	827	873
	1.00–2.99 Ha	1,888	2,522	3,038	3,002	2,587
	3.00–4.99 Ha	2,013	2,067	1,835	1,778	1,278
	5.00–9.99 Ha	1,553	2,243	2,046	1,914	1,211
	10.00–24.99 Ha	1,412	1,406	1,293	1,192	663
	> 25.00 Ha	1,465	1,118	1,034	957	660
		Census-to-Census Growth Rate (%)				
Number of Farms (%)	TOTAL		45.27	34.78	4.61	15.35
	< 1.0 Ha		142.92	117.25	14.86	63.37
	1.00–2.99 Ha		41.20	24.69	0.35	−9.89
	3.00–4.99 Ha		5.34	−11.04	−2.74	−27.10
	5.00–9.99 Ha		47.64	−9.66	−6.80	−35.93
	10.00–24.99 Ha		2.56	−7.89	−7.20	−43.38
	> 25.00 Ha		2.87	−10.72	−10.93	−50.96
Area of Farms (%)	TOTAL		14.50	2.57	−3.05	−24.81
	< 1.0 Ha		127.57	97.27	13.59	5.52
	1.00–2.99 Ha		33.61	20.45	−1.19	−13.82
	3.00–4.99 Ha		2.65	−11.21	−3.09	−28.12
	5.00–9.99 Ha		44.38	−8.77	−6.45	−36.74
	10.00–24.99 Ha		−0.40	−8.04	−7.82	−44.42
	> 25.00 Ha		−23.70	−7.50	−7.43	−31.07

Source: PSA–OpenSTAT

Table 5 continued ...

		1971	1980	1991	2002	2012
Average Area (in ha)	TOTAL	3.61	2.84	2.16	2.01	1.31
	< 1.0 Ha	0.51	0.48	0.43	0.43	0.28
	1.00–2.99 Ha	1.69	1.60	1.54	1.52	1.45
	3.00–4.99 Ha	3.61	3.51	3.51	3.49	3.45
	5.00–9.99 Ha	6.37	6.23	6.29	6.32	6.24
	10.00–24.99 Ha	13.96	13.56	13.54	13.45	13.20
	> 25.00 Ha	103.16	76.52	79.28	82.40	115.83

Second, the change in average farm size reveals a reverse picture. Agricultural holdings below 25 ha were becoming smaller, while farms beyond 25 ha grew substantially bigger. The drop in average farm size is more serious for those with farms below one hectare. The number of farm operators in this category continually increased. Farm operators in this range have seen their average farm size get smaller to almost a quarter of a hectare, down from half a hectare their fathers used to have in 1971. Farms 1–3 ha also got a lot smaller. On the contrary, farmers at the top have amassed their holdings to about 420 times as large as those in the lowest rung. The largest farms are those greater than 25 ha under lease category. The census-to-census growth rates reveal that actually the area coverage of farms > 25 ha dwindled, yet the number of operators in this size category decreased even more, which left the remaining landowners with bigger farms on average. A phase of reconcentration of farms ¿25 ha began starting 1991. These observations are significant since reform advocates are interested in finding out how much farmland the small peasants have received. The rough examination above shows that even though new farmers may have received land, they got very small plots.

This was not what the law had intended. A case in point is the ever smaller average size of farms 1–3 ha. Moreover, there are farm holdings beyond 3 ha

that are under CLT and CLOA, i.e. those awarded under PD 27 and CARP.[15] The former reform distributed up to 3 ha of irrigated or 5 ha of unirrigated lands to peasants, while the latter distributed up to 3 ha (CARL § 23). How any farming unit under this category can operate beyond 5 ha is baffling. The average size of farms held under CLT/CLOA that are beyond 25 ha was 227 ha in 2012. Farms 1–3 ha should have gotten bigger or at least, left with minimal change. If 3 ha were indeed the optimal economical size for family farms, as the law suggests, then it didn't seem to have been achieved.

An encouraging point worth noting is that the average size of farms between 1–3 ha was 1.45 ha, which is actually close to the 'egalitarian' distribution of 1.31 ha in 2012. However, reform activists cannot be satisfied just yet because 57% of the farm operators were below one hectare, and manage an average of 0.28 ha each.

Apart from knowing whether peasants received land, reform advocates are interested in investigating whether this was due to redistribution from large farm operators to small ones, or to opening of new farmlands. They don't merely care about farmers having more land. For them, an important aspect of agrarian reform is real redistribution. Therefore, they will not settle for simple resettlement arrangements (Lipton, 2009; Borras Jr., 2007).

Again, a closer examination of the census-to-census growth rates on Table 5 may shed light on this matter, albeit somewhat dim. In **1980**, for instance, there was a 14.5% overall growth in farm area. And one sees too that farms > 10 ha shrank while the those below grew. This may indicate that some redistribution took place, especially from farms > 25 ha to smaller farms, although this could also have been due to land use change. On that same census year, the growth of

[15] Certificate of Land Transfer (CLT) is the document evidencing the subjection of land under OLT of PD 27 and CARP. Upon full amortisation by the ARB, the DAR will issue an Emancipation Patent (EP), which is the evidence of ownership. The Certificate of Land Ownership Award (CLOA) is the counterpart of EP under CARP. Lands with CLT and CLOA are a sub-category under 'owned' land tenure.

farm area is less than the growth of number of farms across all farm sizes, which easily explains the trend of average farm size seen earlier. From 1980 to **1991**, a different pattern emerges. Farms less than 3 ha continued growing, especially those with less than 1 ha. Yet unlike 1971 to 1980, one sees bigger farms, especially 3–5 ha ones diminishing. This may be indicative of land holding redistribution. And the pattern seems to be that larger farms get redistributed less since the negative growth progressively decreased. But the data is silent as to how much land from which size range may have been redistributed to which other size range. Moreover, it is also conceivable that the large farms simply went idle or were converted to other land uses, while farms below 3 ha grew as a result of resettlement. In other words, the shrinkage of larger farms does not necessarily have anything to do with the growth of smaller farms. In the 2002 census, one sees a 3% shrinkage in overall farm area and most of these are attributable to farms greater than 10 ha. Yet we still see a considerable growth in farmlands below 1 ha, whereas all the rest dwindled in area coverage, including those with 1–3 ha. Again, this may be a sign that land holdings were redistributed. From 2002 to **2012**, the preference for non-agricultural activities became more pronounced as the fall in farmlands across all sizes, except for those less than 1 ha, was massive. However, as mentioned earlier, large farm operators actually gained in average farm size; whereas the small farmers lost a lot.

The regional level data for Table 5 will not be presented but some comments are in order.[16] Small farmers in most regions gained area coverage in total from 1971 to 2012, except for Regions I and VII. About 57% of the growth in farm area of small holders is attributable to Mindanao group of islands, viz. Regions IX to ARMM. However, growth in farm coverage occurred mostly from 1971 to 1991, during the height of Marcos' land-to-the-tiller program. Afterwards, under CARP implementation, farm operators with 1–3 ha had less land to till, especially after 2002. For some regions—Ilocos, Central, Calabarzon,

[16]Data for this may be requested from the author.

Central Visayas and Eastern Visayas—small farms started shrinking starting 1991. Those in Central Visayas shrank the most from 1991 to 2012. Both in absolute farm area and average farm size, farms 1–3 ha were left with smaller holdings. The only two regions where the area of farms below 3 ha continued growing after 2002, albeit only fractionally, were Bicol and Soccsksargen.

Looking at the average farm size per region. Average farm size of small operators (below 3 ha) declined steadily across all regions for the duration of four decades (1971–2012). As for large farms (beyond 25 ha), the trend in average farm size fluctuated across the study period among all regions, except in Region II where the average size of large farms kept on declining. Indeed, large farm holders in that region saw their average farm size declining the most. Generally, large farms got smaller across Luzon; notwithstanding the fluctuations across the years. But in Visayas and Mindanao, large farms aggrandised themselves, especially Northern Mindanao and Caraga. Only in Eastern Visayas (Region VI) and Soccsksargen did large farm operators get smaller during the four decades from 1971 to 2012.

5. Farm holding 'redistribution' ratio

The same regional analysis of changes in farm area across different farm sizes and across the years was done in a more general manner. To summarise the findings, two ratios were computed. The first may be called farm holding 'redistribution' ratio. The term is put in quotation marks because the aggregate data does not necessarily establish a transfer of land from large to small owners. But it is indicative of such. It is computed as the ratio of changes in area of farms above 3 ha to those below 3 ha. This provides a rough estimate of how much land *might have been* transferred from mid and large farm holders to small landowners. The formula is:

$$Farm\ holding\ redistribution\ ratio = \frac{\Delta\ area\ of\ farms\ above\ 3\ ha}{\Delta\ area\ of\ farms\ below\ 3\ ha} \quad (1)$$

The numerator could be computed for each range of farm size, i.e. 3–4.99 ha, 5–9.99 ha and so on. A **negative ratio** has a more straightforward interpretation. It indicates that there was a growth in the area of farms below 3 ha, while the area of those above 3 ha shrank. The vice versa is possible, i.e. farms below 3 ha dwindled while larger farms expanded. But the actual data clearly shows that this happened only in three specific instances. And the more negative this ratio, the more we can infer a redistribution of farm holding from larger farm operators to smaller ones. If the ratio is **between zero and negative 1**, this implies that small farms grew more than the larger farms diminished, and that probably the growth of small farms is due to reasons other than redistribution. A **positive ratio** means that the change in farm area of those below 3 ha and of those in another size range were either both positive or both negative. In the explanation later, it will be clearly written down which one was the case. If the ratio is **between zero and positive 1**, assuming that farms in both ranges of size grew, then it implies that farms with less than 3 ha grew more than farms in the numerator. In this case, then most likely the small farmers received their holdings other than from redistribution. The explanations below will indicate clearly whether this positive ratio pertains to growth or shrinkage in both small farms and larger ones.

To complement this, another ratio is computed. It may be called the 'land use change' ratio. Again, it is in quotation marks because it is merely indicative. It has the following formula:

$$land\ use\ change\ ratio = \frac{\Sigma\Delta\ area\ of\ farms}{\Delta\ area\ of\ farms\ below\ 3\ ha} \tag{2}$$

Table 6: Farm holding "redistribution" ratio and land use change ratio, by region, 1971–1991

	Farm holding redistribution ratio (from . . . to < 3 ha)				**land use change ratio**	**comments**
	3–5 ha	**5–10 ha**	**10–25 ha**	**> 25 ha**		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CAR	−1.05	−0.01	−0.16	−0.13	−0.34	< 3 ha grew mostly at the expense of farms 3–5 ha; even while total farm area shrank.
Region I	−0.43	0.02	−0.01	−0.12	0.46	< 3 ha grew because of new farms; 3–5 ha shrank the most.
Region II	−0.08	0.05	−0.08	−0.68	0.22	< 3 ha grew mostly at the expense of farms > 25 ha
Region III	−0.23	−0.04	−0.01	−0.27	0.45	< 3 ha grew because of new farms; > 25 ha shrank the most.
Region IV-A	−0.08	0.39	0.08	−0.10	1.28	< 3 ha grew because of new farms; > 25 ha shrank the most.
Region IV-B	0.21	0.61	−0.12	−0.50	1.20	< 10 ha grew because of new farms; > 25 ha shrank the most.
Region V	−0.32	0.48	−0.31	−0.71	0.14	< 3 ha grew mostly at the expense of holders > 25 ha.
Region VI	−0.24	0.02	−0.24	−0.75	−0.20	< 3 ha grew mostly at the expense of holders > 25 ha.
Region VII	−0.18	0.15	−0.05	−0.20	0.73	< 3 ha grew because of new farms; > 25 ha shrank the most.
Region VIII	−0.44	0.39	−0.32	−0.38	0.25	< 3 ha grew mostly at the expense of holders with 3–5 ha.
Region IX	−0.08	0.65	0.03	0.23	1.83	All farm sizes, except for 3–5 ha, grew because of new farms.
Region X	0.02	0.29	−0.04	0.22	1.49	All farm sizes, except for 10–25 ha, grew because of new farms.
Region XI	0.25	0.67	0.13	−0.13	1.91	All farm sizes, except for > 25 ha, grew because of new farms.
Region XII	0.01	0.47	0.03	−0.47	1.05	All farm sizes, except for > 25 ha, grew because of new farms.
Region XIII	0.09	0.43	−0.08	0.13	1.57	All farm sizes, except for 10–25 ha, grew because of new farms.
ARMM	−0.14	−0.04	−0.14	−0.12	0.55	< 3 ha grew because of new farms; holdings of other farm sizes shrank.

Source: Computed using data on area of farm holdings by size

Notes:

(1) A negative ratio in columns 2 to 5 is indicative of land redistribution from that particular farm size to farms less than 3 ha.

(2) A positive ratio in column 6 indicates new farms were opened including small holdings.

(3) Column 6 – (2 + 3 + 4 +5) = 1. This is because the numerator of column 6 is the total change in farm area, which should be equal to the numerators of columns 2 to 5 and the denominator.

(4) NCR is excluded.

This can be used to infer either a change into or a change from being agricultural land. If there were no change in total size of farmland, this ratio would be zero. Otherwise, there may have been new farms opened up, old farms converted to other uses or farms left idle. A positive change in total farm area implies new farms were created, which may be due to government resettlement project or forest clearing carried out by farmers. A negative change in total farm area may imply land use change. The ratio provides an idea of how much of the change in small farms *might have been* due to land use change.

A **positive ratio** could mean either that (i) there was a growth in total farm area and that part of this was for small farms, or (ii) there was an overall shrinkage in farm area including small farms. The explanations below will indicate clearly which one was the case. A **negative ratio** implies that the combined shrinkage of all other farms was larger than the expansion of small farms; that's why there was an overall dwindling of farms despite the expansion of small farms.

The computed ratios and the main findings are presented on Tables 6 and 7, dividing the analysis into two periods: 1971–1991 and 1991–2012. The former corresponds to the implementation of PD 27, while the latter period to CARP. The phrase 'at the expense of' on Tables 6 and 7 is merely indicative of redistribution, so it must be kept in quotation marks.

To complement this, the explanations below will also include a discussion on how farms across tenure status changed across the years.[17] One caveat in analysing change in farm size and change in tenure status together is that we can only surmise their connection. Let's say, in a particular region, small farms grew and all the larger farms shrank. Then, the change in tenure status shows that owned farms expanded and the rest of the status types dwindled. One can be highly confident that the new holdings of small farmers were owned. But if there were more than one type of tenure status or more than one range of farm

[17]Data for change in farm area by region and by tenure status may be requested from the author.

size that expanded, it may no longer be inferred with full certainty which farm size range that grew were also owned.

From 1971 to 1991, total farm area grew, except for CAR and Region VI. The positive 'land use change' ratio for most of the regions indicates that this growth in total farm area affected small farms (see column 6 on Table 6). The greater the positive ratio, the greater is the likelihood that the growth in small farms is due to opening of new farms, as opposed to redistribution. Another general observation is that except for three regions, farms 5–10 ha also grew substantially (see positive ratios on column 3), although not as much as small farms; that's why their ratios are less than one. As for tenure status (1971–1991), data shows that most of the new farms (and these were mostly farms less than 3 ha and farms 5–10 ha) were partly-owned, which includes *parcels* that are fully-owned. But apart from these overall remarks, the following discussion will explore each region, going through Luzon, Visayas, and Mindanao group of islands at each paragraph.

Looking at columns 2 to 5 from CAR to Region V, one sees several negative farm holding 'redistribution' ratios. Most have ratios between zero and negative 1, which implies that small farms grew more than larger farms shrank. And some of them have high absolute values. In Region V, for example, the decrease in area of farms above 25 ha is 71% of the increase in area of small farms; in Region II, it's 68%; and in Region IV-B, it's 50%. This indicates a possible redistribution from larger to smaller farms. But looking at the change in tenancy, none of these three involved a lot of owned farms. In several regions of Luzon, farms 10–25 ha also decreased in size (i.e., negative ratios). But for Region I, it seems that farms 3–5 ha were the ones that got 'redistributed' the most. In terms of tenure status, Region III registered a substantial 65% growth in owned farms from 1971 to 1991. In fact, it's the only region in the whole Philippines that did to a considerable extent. Owned farms in Bicol, on the other hand, dropped drastically by 34%.

As for Visayas, farms in Region VI diminished in total, even while small farms grew. At the same time, the 'redistribution' ratio from farms greater

than 25 ha is also quite high. Small farms in Region VII seem to have grown more due to new farms (see column 6) than to redistribution. And as for Region VIII, as much as 44% of the growth in small farm holdings may be attributed to farms 3–5 ha (see column 2). In terms of tenure status, owned farms shrank considerably in Visayan regions, especially in Eastern Visayas, which experienced a drop by 38%, the largest in the whole country.

In Mindanao, especially in Regions IX to XIII, there was a general growth across all farm sizes (see high 'land use change ratios' in column 6). This is indicative that small farm operators gained their farms from new settlements and not from redistribution. Some larger farms dwindled though. For Region IX, farms 3–5 ha diminished (i.e., negative ratio in Column 2). As for Regions X and XIII, it is the mid-sized farms with 10–25 ha that saw smaller coverage. And for Region XI and XII, farms > 25 ha dwindled. The diminished size of farms > 3 ha may indicate some redistribution. But again, this is *non sequitur* because it is possible that conversion of large farms to non-agricultural use happened together with opening up new farms for smaller operators. Besides, the 'redistribution' ratio is so small, they cannot account for the increase in size of small farms. Only in Region XII is the decrease in farms > 25 ha sufficient enough to make one suspect that redistribution occurred; and the data does show that it's the small farms that grew the most. In ARMM, the small farms grew, while the rest shrank (i.e., negative ratios from Columns 2 to 5). However, much of this growth in size may be attributed to new settlements. And most of the new farm holdings there were probably under mixed tenure or tenancy arrangements. Owned farms did not increase much and even declined slightly in Region X and by 22% in Region XIII.

Table 7: Farm holding "redistribution" ratio and land use change ratio, by region, 1991–2012

	Farm holding redistribution ratio (from . . . to < 3 ha)				**land use change ratio**	**comments**
	3–5 ha	**5–10 ha**	**10–25 ha**	**> 25 ha**		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CAR *	−1.32	−1.00	−0.88	−1.12	−3.33	Only holdings < 1 ha grew; total farm area shrank.
Region I	0.35	0.23	0.10	0.09	1.77	Only holdings < 1 ha grew; total farm area shrank.
Region II	6.72	3.48	−0.70	3.30	13.79	Holdings < 1 ha and 10–25 ha grew; total farm area shrank.
Region III	0.76	0.36	0.07	0.22	2.42	Only holdings < 1 ha grew; total farm area shrank.
Region IV-A	0.70	1.01	0.83	0.94	4.48	Total farm area shrank.
Region IV-B *	−2.08	−4.95	−3.91	−2.38	−12.32	Only holdings < 1 ha grew; total farm area shrank.
Region V *	−5.39	−24.54	−30.86	−16.78	−76.57	Only holdings < 1 ha grew; total farm area shrank.
Region VI	0.63	0.61	0.62	1.81	4.67	Total farm area shrank.
Region VII	0.42	0.39	0.25	0.33	2.38	Total farm area shrank.
Region VIII	2.11	4.94	4.52	1.86	14.43	Only holdings < 1 ha grew; total farm area shrank.
Region IX	1.58	3.19	2.79	0.83	9.40	Only holdings < 1 ha grew; total farm area shrank.
Region X	22.97	35.29	22.07	−3.92	77.41	Holdings < 1 ha and > 25 ha grew; total farm area shrank.
Region XI	−1.53	−3.87	−3.43	−1.28	−9.12	Only holdings < 1 ha grew; total farm area shrank.
Region XII	−0.27	−1.34	−0.87	−0.18	−1.67	< 3 ha grew mostly at the expense of farm holders with 5–25 ha; even while total farm area shrank.
Region XIII	2.15	5.85	4.28	−6.73	6.56	Holdings > 25 ha and a bit of those < 1 ha grew mostly at the expense of holders with 5–25 ha, while total farm area shrank.
ARMM	141.18	97.84	47.02	35.04	322.08	Only holdings < 1 ha grew; total farm area shrank.

Source: Computed using data on area of farm holdings by size

Notes:

* In these regions, although farms 1–3 ha shrank, farms < 1 ha grew more, so the ratios are negative.

See other notes under Table 6

From 1991 to 2012, farm area across regions shrank without exception (column 6 Table 7). This may indicate massive Land Use Conversion (LUC) all over the country. This is another way by which landowners tried to evade CARP (Kelly, 1998). For several regions in Mindanao, farmland still increased during the first decade of this period, but shrank invariably in the second half. National-level data reveals that most of the farms that grew were those below 1 ha. This suggests that as the overall farm area dwindled across the board, probably due to LUC, some of them *may have been* redistributed as well to farms less than 1 ha. Most of the 'redistribution' ratios are positive because both farms below 3 ha and larger farms shrank. During this period, 'redistribution' ratios greater than 1 imply that the shrinkage of small farms is less than shrinkage of bigger farms. This is the case in Region II, VIII and most of Mindanao. In Region I, the positive 'redistribution' ratio got smaller up the size range, which implies that the larger the farm size, the less shrinkage it experienced. Where 'redistribution' ratios are negative for a specific size range, farms increased at the expense of those from other farm sizes. The most glaring of all is Region XIII, where farms > 25 ha increased by 57,505 ha, while the rest, including small farm holdings, dwindled in size.

Looking at the tenure status, one realises that the shrinkage was mostly among farms with mixed tenure. And those that grew were probably under lease arrangement and tenancy, especially in CAR, Regions I and II, and Caraga (XIII). Owned farms dropped, although some regions had considerable growth in this category like Cagayan Valley (II) and Central Luzon (III). These same two regions were the ones with the largest shares of OLT achievements, 13% and 36% respectively. At the same time, Region III had the highest share of LE redistributions. Most of Visayas and Mindanao saw dwindling farmlands under both owned and tenanted arrangements.

From Table 1, one can see that 43% of the total LAD accomplishments were GOL/KKK and settlement areas. And about 72% of GOL/KKKs were in Visayas and Mindanao, which also comprised 85% of settlement accomplishments. However, this much LAD accomplishment is *not* reflected in the CAF

data because it seems farm area dwindled across all farm sizes from 1991 to 2012.

The effects of compulsory acquisition is even less evident. Indeed, since CA redistributions are only a small portion of the total LAD accomplishments, its effects are not detectable in the CAF data. Apart from this, another reason why CA is not reflected in the data could be that CARP was also poor in targeting areas with high land inequality and landlessness (WB 2009, p.16). Even Region IV-A, which had the best CA accomplishment, does not show signs of it in terms of tenure and farm size distribution. The best one can say for CA in Region IV-A is that, at least, the owned farms category did not diminish as much as the others during most of the CARP implementation.

To summarise this section, during the two decades from 1971 to 1991, whatever increase in area that small farmers got, most of it were probably from new settlements. The regions where there may have been substantial redistribution of holdings (not necessarily ownership) from large to small farms were Cagayan Valley (II), Bicol (V) and Western Visayas (VI). Indeed, large farm operators in Cagayan Valley experienced the most reduction of average farm size. However, most of the new lands that went to the small farmers in the whole country were unlikely to have been farms under full ownership. From 1991 to 2012, there was an overall reduction of farm area, possibly as a result of a nationwide LUC. However, farms less than one hectare expanded, which may have been due to redistribution from larger farms. Nevertheless, it is inferred that only a minor proportion of these new farms were owned. It's in Regions II and III, where OLT and LE accomplishments were highest, that owned farms increased the most. The effects of other types of LAD, including compulsory acquisition under CARP, are not conspicuously discernible from the CAF data. Based on the 'redistribution' ratios and changes in average farm size, it seems that land accumulation occurred the most in Northern Mindanao (X) and Caraga (XIII). Even Central Luzon (III) and Western Visayas (VI), where the two most infamous provinces—Tarlac and Negros Occidental, respectively—are seem benign compared to Regions X and XIII.

6. Farm operation Gini

The conclusions above may be complemented by Gini coefficients.[18] To reiterate, these are not an indicator for inequality of *land ownership*, but rather inequality of *farm holdings (operations)*. The reader must also be reminded that farm holders may own other pieces of land that are not farms. These would not be counted in the Gini below.

In general, land holding inequality increased from 1971 to 2012—from 0.51 to 0.60—although it also declined in some years for some regions (Table 8). The least unequal in 2012 are Ilocos and ARMM, both of which have been consistently lowest across most census years. However, as seen earlier, average farm size of holdings > 25 ha in ARMM are growing. The highest agricultural landholding Gini coefficients are in Calabarzon (IV-A), Bicol (V) and Northern Mindanao (X). That the Gini is high in Region X is expected. But not in Region IV-A and V, where CA accomplishments were high. Earlier, it was shown that CA accomplishments were not manifest in the "redistribution' ratio. Neither is it in the Gini. Central Luzon used to have the second lowest Gini, but increased a lot especially during the implementation of CARP. This again does not exactly square with its LAD accomplishments.

If one isolates the owned farms category, the 2012 farm holding Gini coefficient clocks in at 0.64 (versus 0.58 for all tenure types together).[19] Looking at the Gini of owned farms at the regional level from 1991 to 2012, all regions got worse, except for Central Visayas which improved by only one basis point. There were supposed to have been 3.92 million ha of LAD during this period for the whole country, about 6.23% of which were OLT accomplishments and 8%

[18] Gini coefficients here are the author's own computation. There are usually small deviations among computations. The 1991 Philippine operated farm Gini coefficient in Lipton (2009) is 55%, while Balisacan (2008, as cited in World Bank, 2009, p.52) is 57%. Hayami et al. (1990) computed the 1960 farm holding Gini as 52%, while Balisacan (2008) as 53%. In any case, the conclusions derived do not differ.

[19] Data on Gini coefficient for owned farms category may be requested from the author.

Table 8: Gini coefficient of farm holdings by region, 1971–2012

	Year / Region	Gini Coefficient of Farm Holdings				
		1971	**1980**	**1991**	**2002**	**2012**
LUZON	PHILIPPINES	0.5101	0.5090	0.5409	0.5448	0.5972
	CAR	0.4782	0.6175	0.5379	0.5644	0.5569
	Ilocos (I)	0.3734	0.3993	0.4129	0.4157	0.3961
	Cagayan Valley (II)	0.4888	0.4392	0.4380	0.4577	0.5699
	Central Luzon (III)	0.4067	0.3718	0.4543	0.4789	0.5522
	Calabarzon (IV-A)	0.4847	0.4900	0.5653	0.5734	0.6235
	Mimaropa (IV-B)	0.5404	0.5287	0.5353	0.5314	0.6086
	Bicol (V)	0.5316	0.5577	0.5677	0.5724	0.6242
VIS	Western Visayas (VI)	0.6023	0.5772	0.5963	0.5661	0.6065
	Central Visayas (VII)	0.5248	0.5318	0.5343	0.5380	0.5331
	Easter Visayas (VIII)	0.4784	0.4819	0.5248	0.5386	0.5715
MINDANAO	Zamboanga (IX)	0.4369	0.4512	0.5204	0.5922	0.5340
	Northern Mindanao (X)	0.4779	0.4853	0.5439	0.5371	0.6427
	Davao (XI)	0.5094	0.4766	0.5352	0.5143	0.5894
	Soccsksargen (XII)	0.4967	0.4460	0.4787	0.4763	0.5295
	Caraga (XIII)	0.4270	0.4305	0.5185	0.5022	0.5984
	ARMM	0.4093	0.3152	0.3924	0.4396	0.4389

Source: Computed from PSA data on number and area of farm holdings.

Note: NCR not included.

were CA. These are quite low. But even in Region III and IV-A, the owned-farm Gini does not lend any credence to their high OLT and CA accomplishments; it increased from 1991 to 2012 in both regions by 7.5 and 5.3 basis points, respectively. Another simple comparison may help highlight a point. Central Visayas accomplished about 100,000 ha of LAD within the same period, of which 16% were CA lands. It is the only region where the distribution of owned farms became more equal, albeit by only a few basis points. Cagayan Valley was

the region that became most unequal in the span of two decades, from 0.5 to 0.66. This region accomplished around 250,000 ha of LAD during this period, of which only 4.65% are CA lands; notwithstanding its high accomplishment in OLT and GOL/KKK lands. These comparisons, although crude, can allow one to perceive some indication of how the situation is. It seems that the census data on farm holdings is incongruous with *total* LAD. But it does appear to slightly corroborate the data on CA accomplishments.

7. Concluding remarks

By the end of 2017, DAR had already accomplished 88% of the LAD targets; or a cumulative 4.77 million hectares benefitting 2,841,680 landless farmers. Many have cast doubts on this achievement since compulsory acquisition occupies only a minute portion. Annual redistributions have been going down. Moreover, accomplishment figures are overstated due to all sorts of schemes the owners do to keep their ownership of or effective control over the land, which renders these non-redistributive (Borras Jr., 2007, chap. 3). Unfortunately, the findings of this study largely echoes the criticism of previous research that inveighs CARP for being mostly non-redistributive.

The main contribution of this paper is to use CAF data to independently analyse the changes in farm size and tenure across small, medium and large farms. This helped to check data from DAR using data from another government agency. Analysis was divided into 1971–1991 (period of PD 27 implementation) and 1991–2012 (period of CARP implementation). Specifically, the following were investigated: tenancy, change in absolute and average area per size of holding, and farm holding Gini coefficient. In addition, to facilitate the analysis at the regional level, two ratios were computed: the 'farm holding redistribution' ratio and the 'land use change' ratio.

In general, changes in area coverage and average sizes do reflect the effectiveness of OLT and LE portions of CARP. And in places where these two LAD types were low, CARP accomplishments seem to have been a mirage. Since

CA only comprised a minute fraction of total accomplishments, it is not reflected clearly in the CAF data, even in Region IV-A, where it was highest. Even GOL/KKK and Settlement Area accomplishments during CARP cannot be gleaned very much from the CAF data of regions where they were supposed to have taken place the most. More strikingly, farm holding Gini showed no signs of improvement even where OLT and LE accomplishments were high.

Having missed its deadline three times, DAR has successfully outlived its intended years of service. With only 655,360 ha left based on the 2017 statistics, LAD is nearing its final throes. But these results should not necessarily dishearten the reform advocates. Even discounting the non-redistributive reforms, Borras Jr. (2007) sees many positive things in CARP. On top of these, what may be highlighted here is that the Philippines has actually achieved more (in terms of absolute number of redistributed land and beneficiaries) compared to many countries. This is true even if one were to consider only the more *redistributive* OLT, CA and GFI lands, which by 2017 has a total accomplishment of 1.151 million hectares. This is already beyond what Peru under Belaúnde, or Guatemala under Arbenz, or El Salvador under the military government were able to carry out.[20] The MLAR component of CARP with 1.49 million ha accomplishment is much higher than that in Colombia. And in terms of number of beneficiaries, the Philippines has reached out to more people. Therefore, despite everything, CARP remains a laudable effort towards social justice in Philippine history, albeit certainly not without imperfections. In other words, it has done something, although not as much as it endeavoured to achieve at the outset. In terms of redistribution alone, this 'something' is not a negligible feat, although neither is it as celebratory as official numbers make it to be.

[20] Indeed, the success—much less the goodness—of an agrarian reform does not solely lie in redistribution numbers. This is merely to show that task which the legislators in the 1980s have set for itself and future generations in the country was truly a gargantuan order, which seen in light of what other countries have set out to do, really should not be discounted as failure just because it has taken such a glacial pace to reach this point.

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