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Time to let go of CARP? Not so fast

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We review the data being used to argue that the Philippines' comprehensive agrarian reform program (CARP) has failed in economic terms. We find that important statistics and econometric results from cited references have been either misinterpreted or used to make invalid comparisons. A more careful reading of the data shows that productivity for all four major crops under land reform rose more in agrarian reform communities than elsewhere, poverty incidence declined more in agrarian reform communities than in non-agrarian reform communities, and being an agrarian reform beneficiary or residing in an agrarian reform community has positive effects on per capita income. In short, the case that CARP has failed or is redistributing poverty was not made.

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This paper seeks to clarify the appreciation of data pertaining to agrarian reform used in the influential and widely read paper "CARP: time to let go" by Professor Raul V. Fabella (henceforth Fabella [2014], in this issue). The paper of Fabella [2014] consists of three parts. The first argues that "the cumulative weight of evidence suggests that the hypothesis that in economic terms CARP is a government failure has not been rejected". The second offers possible reasons for that failure, while the last part concludes by saying it is time to let CARP go and stop redistributing poverty.

The weight and motivation of the entire argument, however, hinge crucially on the "extant evidence" presented in the first part. We argue that much of that evidence is unfortunately either a misreading or an uncritical use of findings from the cited references. In what follows, we examine the evidence presented in the Fabella paper, pointing out where misinterpretations and unwarranted comparisons were made. Conclusions are drawn at the end.

Correcting the evidence presented

Fabella [2014] assembles evidence pre- and post-2009 to argue that CARP has "messed up" in terms of farm productivity and the enhancement of quality of life, in which quality of life is defined in monetary terms. For the post-2009 period, Fabella cites data from an internal management report of the Department of Agrarian Reform (DAR) called the "2011 ARC level of development assessment (ALDA)". The ALDA is a tool employed by DAR to monitor key interventions in agrarian reform communities (ARCs) and the agrarian reform beneficiary (ARB) households and organizations located in them.[1] Fabella makes two points:

1. Productivity figures for crops that came under land reform are adverse ("chilling").
2. ARC-affiliated farmer beneficiaries of CARP have become poorer.

Fabella reinforces these points using pre-2009 data from an impact assessment of CARP by APPC (2007) and from 2006 IARDS data (found in Ballesteros and Bresciani [2008]).[2] He argues that

3. Landownership via CARP is an "inferior type of ownership".
4. The difference in average net profit of ARB farms in ARCs versus non-ARB farms in ARCs is of little significance given that the ARBs have, on average, 30 percent larger plots.

We examine each of these points in turn.

1. "For crops that came under land reform with CARP, the [farm productivity] figures are chilling." (p. 3, par 3)

To substantiate this statement, Fabella cites average yields (in tons/hectares) of the four major crops in ARCs as reported in the 2011 ALDA. The yield for rice (*palay*) was 10 percent higher than the national average, 50 percent higher for corn, 40 percent lower for coconut, and 8 percent lower for sugar. While conceding that for the "two crops that were largely covered by the 1964 land reform, farm productivity looked better", Fabella stresses that "sugar and coconut productivity fell compared to average" and goes on to conclude that "for crops that came under land reform with CARP, the figures are chilling".

[1] An "ARC" is a barangay or cluster of contiguous barangays where majority of the CARP-covered lands have been (or are anticipated to be) awarded to a critical mass of ARBs. The DAR adopted the "ARC strategy"as an integrated development approach to improve the well-being of ARBs [DAR Planning Service 2012].

[2] Fabella also discusses a pre-2009 study by Reyes [2002]. We do not comment on Reyes [2002] here, however, since the APPC [2007] study supersedes it in both methodology and scope.

The ALDA, however, is not designed to support statements attributing increases or decreases in farm productivity to CARP. If one were to do so, an even hand should at least be applied. In this case, it is not clear why figures are so chilling when two out of four crops—rice and corn—that together represent 62 percent of area planted in ARCs, demonstrate yields that are higher than the national averages.

In any case, Fabella [2014] misconstrues the data when he concludes that the productivity of any of the crops fell against an average since the figures are only for one point in time. A proper comparison of productivity growth requires, at the very least, data for a second point in time—which is actually available in APPC [2007:40]. Table 1 presents the figures for both 2005 and 2011, and shows that on average, yields in ARCs actually improved relative to national averages for all crops: from 6 percent to 10 percent higher for palay, 23 percent to 50 percent higher for corn, 72 percent lower to 40 percent lower for coconut, and 16 percent lower to 8 percent lower for sugar. This is hardly chilling.

TABLE 1. Average yields (tons/hectares) of major crops in ARCs versus national average, 2005 and 2011

	Corn		Coconut		Sugar		Rice	
	2005	2011	2005	2011	2005	2011	2005	2011*
ARC	2.7	3.89	1.3	2.71	51.9	61.69	3.8	3.92
National	2.2	2.6	4.6	4.53	62.1	66.84	3.6	3.56
Difference	23%	50%	-72%	-40%	-16%	-8%	6%	10%

Sources: 2005 data from APPC [2007]; 2011 data from Adriano [2013]
* Simple average of irrigated and unirrigated palay

2. "Even worse about CARP is its outcome on its beneficiaries' quality of life … CARP, it seems, has created a new class of farmers—namely, the landed poor" (p. 3 [par 4] to p. 4 [par 1]).

Fabella cites a poverty statistic from the 2011 ALDA—that among ARBs in the ARCs "54 percent of households fell below the poverty line". He also cites a poverty statistic from the earlier 2009 Family Income and Expenditure Survey (FIES)—that among farmer households poverty incidence was 36 percent. He then infers that "this seems to say that ARC-affiliated farmer beneficiaries of CARP have become poorer" (i.e., from 36 percent poor in 2009 to 54 percent poor in 2011) and proceeds to attribute to CARP the creation of a new class of farmers, which he calls the "landed poor".

But it is erroneous to use the 2011 ALDA poverty statistic of 54 percent—on its own or, worse, juxtaposed with statistics from the 2009 FIES—to suggest that CARP has made people poorer. ALDA and FIES statistics are *noncomparable*:

the two surveys cover different populations, have different objectives, and employ different definitions of household income. Moreover, estimates of "total household income" from the ALDA will be biased downward and estimates of poverty incidence biased upward. To demonstrate why, consider the following:

- The FIES is a national income and expenditure survey using a sample of households drawn from the universe of about 18.4 million households across the country. The ALDA module is an "agricultural productivity and household income" survey restricted to ARB households residing in ARCs—a universe of 1.43 million households from a very select 9,635 barangays. Barangays were chosen as ARCs because they are typically more economically depressed to begin with.[3]

  The FIES questionnaire on income is 24 pages long and captures earnings and other receipts in both cash and kind from a detailed list of activities including regular employment, seasonal employment, net share of agricultural products produced by other households, other sources of income (e.g., assistance from abroad), other receipts (e.g., loans received), family sustenance, and entrepreneurial activities. The ALDA questionnaire is all of 2½ pages—two of which are dedicated to net farm income (vs. off-farm and nonfarm income)—and does not capture income or receipts in kind. At best, therefore, the ALDA may provide a fair estimate of net farm cash income among respondent households, but it is not clear how well it estimates all other components of total household income.[4]
- The FIES is conducted in two visits—July and January—and the recall period for each visit is the preceding six months. The ALDA survey is done in one visit, with a recall period of one year. Less is remembered the longer the recall period.

The bottom line is that the ALDA poverty statistic is unreliable and, in any case, statistics from the ALDA and FIES should not be compared.

Attributing changes in beneficiary welfare to CARP requires a proper with-and-without, before-and-after estimation of the impact of CARP. This was in fact the subject of APPC [2007], described by Fabella as "by far, the most painstaking and careful undertaking to evaluate the performance of CARP on beneficiary welfare". The study found that poverty incidence in ARC barangays went *down* by 16 percentage points (40 percent to 24 percent) between 1990 and 2000, a reduction that was slightly greater than for non-ARC barangays [APPC 2007:10]. That is, CARP *improved welfare* in ARC barangays:

[3] DAR initially targeted economically depressed areas in launching ARCs (see APPC [2007:37]).

[4] To give an idea of the difference, FIES 2012 indicates that among rural households, only 32.6 percent of total household income was derived from agriculture-related activities in 2012.

The end goal of all the synchronized efforts directed toward the ARCs is for at least 70 percent of the total number of beneficiaries to enjoy an average annual household income above the national poverty line" (DAR-BARBD 1996). Given this benchmark, it is safe to say that the ARC strategy has more than achieved its goal.

The APPC study should be extended to 2010 (which is possible once the Census 2010 files are released) to validate whether welfare improvements are still apparent. Short of an extension study, however, one could examine data from the Annual Poverty Indicators Survey (APIS) series, which can identify households that acquired agricultural lands through CARP.[5] As Table 2 shows, between 1998 and 2011, there is a greater increase in average per capita income (12.3 percent) and a deeper reduction in poverty incidence (21 percent) among CARP households as compared to landowning non-CARP households and the general population.[6] This seems to reinforce the APPC [2007] findings. Again, an extension study of CARP's impacts would allow for a more rigorous analysis.

TABLE 2. Average per capita income (in 2009 prices) and poverty incidence for the total population, population of landowning non-CARP households and CARP households (1998, 2004, 2011)

	1998		2004		2011		% Change 1998–2011	
	Average per capita income	Poverty incidence	Average per capita income	Poverty incidence	Average per capita income	Poverty incidence	Average per capita income	Poverty incidence
Population	20,451.70	34.98%	20,402.00	32.62%	20,562.00	29.81%	0.54%	-14.79%
Not-CARP*	19,987.50	41.10%	20,287.50	38.71%	19,067.40	38.51%	-4.60%	-6.30%
CARP**	16,462.80	40.23%	17,998.10	34.21%	18,485.40	31.77%	12.29%	-21.02%

Source: Authors' computations from APIS using 2009 official poverty lines.

* Households who own land for agricultural purposes not acquired through CARP.

** Households who own land for agricultural purposes acquired through CARP.

3. "Since landownership raises per capita income and being an ARB implies being with land, it should follow that being an ARB should raise income per capita. But it does not. This implies that 'landownership via CARP' is an 'inferior type of ownership'" (p. 4 [par 6] to p. 5 [par 1]).

[5] The APIS asks whether a household owns land that it uses for agricultural purposes and, if it does, whether that land was acquired through CARP.

[6] One may ask how poverty incidence can be higher among non-CARP households when average per capita income is also higher. This has to do with the *distribution* of per capita income among non-CARP households and CARP households.

Here, Fabella misconstrues the results of an econometric exercise in APPC (2007), which seeks to estimate the welfare impact of the "ARC strategy" at the household level. In the APPC model, households are classified into one of six mutually exclusive categories defined from combinations of owning land, being an ARB[7], and residing in an ARC (see Figure 1).This categorization highlights the premise of CARP that welfare effects are a joint product of landownership and support services, as embodied in the ARC strategy. The model allows one to test whether and how belonging to one or another category has an impact on welfare.

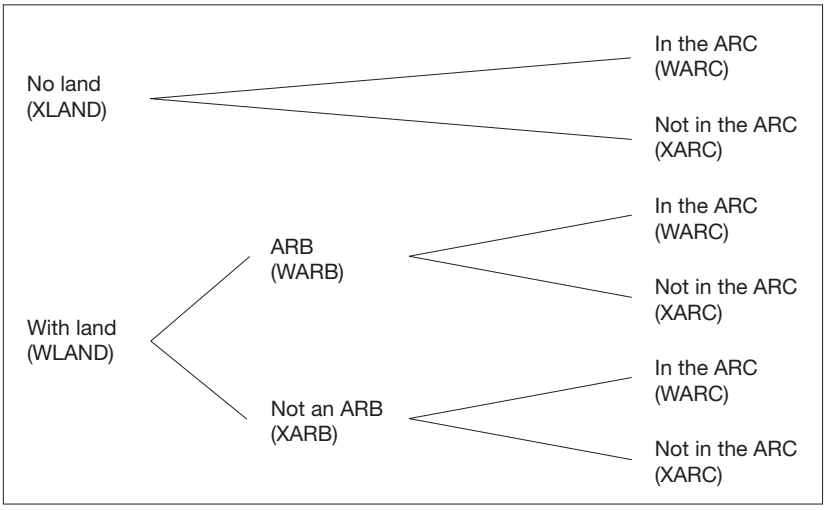


FIGURE 1. Six "landownership" categories (reproduced from APPC [2007])

The exercise confirms that after controlling for production and other factors, being an ARB and residing in an ARC have *significant* and *positive* effects on per capita income.[8] Concretely, the difference in predicted per capita income between ARBs who reside in ARCs and those who do not is approximately 11 percent; between ARBs who reside in ARCs and landowning non-ARBs who do not, it is 8.5 percent; and between ARBs and landowning non-ARBs both of which reside in ARCs, it is 7.5 percent.[9]

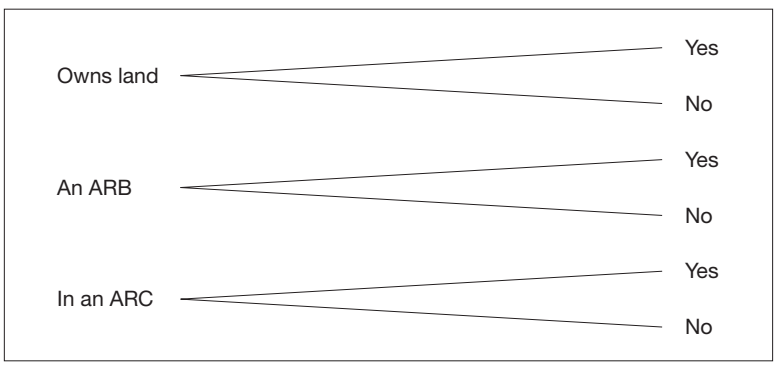
[7] By definition, an ARB also owns land. However, an ARB will have been landless previously and, most likely, relatively poorer on average than landowning non-ARBs. ARBs may also have smaller parcels of land on average.

[8] See Table 22 of APPC [2007:74].

[9] This last difference (7.5 percent) is economically significant even if it may not be statistically significant.

The APPC study also mentions—almost as an aside—a result from a second model, which characterizes households as "owning land" or not, being an "ARB"or not, and residing in an "ARC" or not, *separately* rather than jointly (see Figure 2). Using this specification, "ARB" and "ARC" are not found to be significant in explaining differences in per capita income. This result really just confirms the superior representation in Figure 1—that the three dimensions occur simultaneously and that that welfare effects are better estimated when the econometric model is specified accordingly—and nothing more is said about it (e.g., tables are annexed as an "extension model" without any exposition).

Fabella's paper, however, misses this simple insight and instead interprets the results of the second model as negating the significant results of the first. Hence his conclusion.



Source: Authors' construction.

FIGURE 2. Three characterizations per household in the second model

4. "The 2006 IARDS data set shows that the average net profit from the average two hectares of ARB farms in ARC was ₱10,387, while that from 1.4 hectares non-ARB in ARC was ₱9,356, or 10 percent higher on average. This is hardly a significant difference, given that the ARBs have, on average, 30 percent larger plots [Ballesteros and Bresciani 2008]" (p. 5, par 5).

In fact, the gross and net profit data found in Ballesteros and Bresciani [2008:10, Table 6] are already computed on a per-hectare basis, as is the practice for statistics on farm yields.[10] That is, the net profit for ARB farms in ARCs in 2006 was ₱10,387 per hectare; net profit for non-ARB in ARC was ₱9,356 per hectare. In other words, ARB farms in ARCs were more profitable than non-ARB farms in

[10] Confirmed through personal communication with M. Ballesteros.

ARCs in 2006, by 11 percent on average. For farms not in ARCs, ARB farms were more profitable than non-ARB farms by 37 percent on average.[11]

Concluding remarks

Professor Fabella [2014] set out to prove that CARP has failed in order to support his view that it is time to let CARP go. However, a more careful reading of the statistics and references presented in his paper reveals that there is no case for concluding that CARP has "messed up", "failed in its most crucial test", or "redistributed poverty". On the contrary, productivity for *all* four major crops under land reform *rose more* in ARCs than elsewhere between 2005 and 2011; being an ARB and residing in an ARC have *significant* and *positive* effects on per capita income; and poverty incidence in ARC barangays went *down* more than in non-ARC barangays between 1990 and 2000.This last piece of evidence, while somewhat dated, is reinforced by APIS data from 1998 to 2011 showing a greater increase in per capita income and a deeper reduction in poverty incidence among CARP households as compared to landowning non-CARP households or the general population.

To be clear, Fabella's paper does not concoct figures. Rather the problem is a failure to understand the context and limitations of existing data. In any event, without evidence that CARP has failed, there is little to motivate or substantiate the paper's succeeding discourse on why it failed and how its flaws are responsible for the demise of formal credit, the flight of private capital, rural stagnation, and even the erosion of the rule of law. Attributing all this to CARP rests on a presumption that CARP has made people poorer. But existing evidence shows it has not.

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(Piza is coauthor of the Asia-Pacific Policy Center (APPC) monograph "CARP impact assessment: study on the impact of CARP on poverty reduction and prospects for long-term growth" [2007], which is frequently cited in the debates over agrarian reform. The views are the authors' own and not necessarily those of the organizations with which they are affiliated.)

[11] In 2000, ARB farms in ARCs were more productive than non-ARB farms in ARCs by 49 percent. For farms not in ARCs, ARB farms were more productive by 44 percent. See Table 6 of Ballesteros and Bresciani [2008].

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