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*Changes in Rice Farming in the Philippines: Insights from Five Decades of a Household-Level Survey.* By Piedad Moya, Kei Kajisa, Randolph Barker, Samarendu Mohanty, Fe Gascon, and Mary Rose San Valentine. College, Los Baños, The Philippines: The International Rice Research Institute, 2015. xiiiv+145 pp.

This valuable and stimulating little book stands at the intersection of two familiar approaches to the study of rural Southeast Asia. The production of rich troves of data on specific corners of the region has distinguished the first, older, approach — one exemplified most famously by the Cornell project on the Central Thai village of Bang Chan and the MIT Modjokuto Project. The scholarly yield of those projects, now relics of a bygone era, proved enduringly influential, but, the historicizing efforts of Sharp and Hanks (1978) and of Geertz (1963) notwithstanding, that yield resulted from intensive fieldwork undertaken during a finite period. The longitudinal reach of the data that the projects generated was necessarily limited. Imputations of change, above all in the case of Geertz’s work on Java’s agriculture and society, rested on less than ideal foundations. As if to address this latter issue, but really in response to the rapid disappearance of what they previously understood as “the rural” from much of rural Southeast Asia, a second approach has more recently seen scholars return to the sites of their earlier fieldwork to restudy them. Perhaps the outstanding example of this latter approach has come in the studies collected in Rigg’s and Vandergeest’s edited volume, *Revisiting Rural Places* (2012).

The book under review here has much in common with the studies in that latter volume, but it is at the same time both narrower and deeper than most of them. For its focus is ostensibly on rice farming and only on rice farming, and it draws not on a single or even two or three or four follow-up visits to its field site but rather to more than twenty return visits to farm plots in Central Luzon over a period of nearly half a century. The book and the surveys on which it draws thus represent one of the more remarkable treasure chests of social-scientific data ever assembled in the post-independence study of rural Southeast Asia.<sup>1</sup>

The origins of this “gold mine of information about rice production systems at the farmer level” (p. xi) lay in a survey of farm practices, varieties planted and yields obtained, and costs and returns among farmers along a “loop” of the national highway taking in the Philippine provinces of Bulacan, Nueva Ecija, Pampanga, Tarlac, Pangasinan and La Union. Undertaken by agricultural engineers at the International Rice Research Institute (IRRI), located in Los Baños, Laguna province, the survey collected weekly data across the wet and dry seasons of the 1966/67 crop year on 120 parcels of land, comprising ninety-five farm operations. With some variations in sample size, IRRI agricultural economists and researchers working with them would subsequently track developments on these same and nearby parcels of land, and among many of the farm households originally surveyed, across twenty-one further wet and dry seasons, from crop year 1970/71 to crop year 2011/12.<sup>2</sup> The result was the longitudinal Central Luzon Loop Survey data whose existence makes this book possible.

The book’s brief chapters, accompanied by tables of relevant data, draw on the Loop Survey to address changing household and farm characteristics and patterns of productivity, crop management, labour use, adoption of new technology and farm profitability. An additional chapter offers six case studies of farms or farmers that the Loop Survey followed for nearly fifty years. A concluding chapter summarizes the book’s major findings. Useful appendices present further data in extensive tables, offer a bibliography of studies that have made use of data from the Loop Survey, list IRRI researchers who participated in the various iterations of the survey, and explain what interested researchers will find in the vast collection of Loop Survey data, which IRRI has made fully available online.

A number of the broad findings reported in this volume will be little cause for surprise among observers of the rural Philippines, of other parts of rural Southeast Asia, or of both. The average age of farm operators has increased, to the late fifties by 2012. While agriculture was the primary occupation of all Loop Survey respondents in 1966, by the time of the last round of the survey reported in the book only 16 per cent of respondents considered farming their

primary occupation. Along with other sources of off-farm income, remittances had become increasingly important. These are well-known stories, but many readers may consider some of the other reported findings less predictable.

One of these relates to land tenure. Pessimism and worse have long marked appraisals of the design and effectiveness of the land reform efforts undertaken during the presidencies of Diosdado Macapagal (1961–65) and Ferdinand Marcos (1965–86). But IRRI researchers found that, while 75 per cent of Loop Survey sample parcels were under share tenancy and 13 per cent under leasehold in 1966, the former form of tenure gave way steadily and rapidly both to the latter and to ownership. By the time of the 2011/12 Loop Survey, landowners operated 63 per cent of the sample parcels. Findings concerning decreases in the use of family labour, above all in such operations as land preparation and crop care, and relative increases in reliance on “hir[ing] landless workers for most farm activities” (pp. 44–45) round out the story of agrarian relations in Central Luzon during the period. As was evident fully a quarter-century ago, but for reasons that this book makes particularly clear, significant numbers of landless people have replaced share tenants at the bottom of the social heap in the region. Nevertheless, the introduction of modern rice varieties in the 1960s and 1970s resulted in a sustained rise in the factor share of payments to labour, and farmers have relied less on family labour than on hired labour over time. The adoption of such varieties has thus resulted in increased returns to the landless.

The book reports that labour scarcity is not yet an issue in the Central Luzon rice sector, though it suggests that the recent acceleration of growth in the Philippine economy may lead to tighter labour markets. It notes “no discernible and systematic difference in yield over time among various tenure forms” (p. 24). The period covered by the Loop Survey data also saw falls in both land rents and in the factor share of land.

In a second noteworthy finding, while the size of the largest farm operation in the sample, counting all parcels comprising each operation, never exceeded ten hectares until the 2003/4 iteration of the Loop Survey, mean farm size remained relatively unchanged

across five decades. It stood at 2.09 hectares in 1966/67, reached 2.60 hectares in 1974/75, fell to 1.59 hectares in 1998/99, and stood at 1.94 hectares in 2011/12. Seeming to consider larger farm operations and the resultant economies of scale desirable for Central Luzon, the authors of *Changes in Rice Farming in the Philippines* point to inactive land markets and persistently low wage rates as obstacles to that outcome.

Third, a persistent theme in *Changes in Rice Farming in the Philippines* is concern about the state of wet-season rice agriculture in Central Luzon. While the average size of the farm operations surveyed has remained stable, for example, Loop Survey results reflect a decline in fully 40 per cent in the area planted to rice during that season between the 1970s and the 1990s. Yields in that season have stagnated since the early 1980s, and, in contrast to economic returns to dry-season rice cultivation, those to wet-season cultivation have been in decline. “[I]n the last two rounds of the WS [wet season] (in 2008 and 2011, respectively), the sample farmers generated little profit from rice farming ... thus raising concern about the economic sustainability of rice farming in Central Luzon in the WS” (p. 58). The authors of *Changes in Rice Farming in the Philippines* regard this issue as one of the most serious facing the sector.

Fourth, the Loop Survey has paid close attention to the rice cultivars adopted by the farmers of Central Luzon. Its data track the transition from a time in which these farmers cultivated traditional varieties to the current, not uncontroversial, age of hybrid rice. In behaviour that would surprise neither Peter Bauer nor students of the history of the great rice deltas of Mainland Southeast Asia, Filipino smallholders have during the past half-century proved highly responsive to the availability of new varieties and, the book argues, to the economic advantages that choosing to cultivate those varieties have offered. In this context, the reported enduring popularity of the IRRI cultivar IR64, released in the mid-1980s, merits particular attention. The book notes that such third-generation modern rice varieties “incorporate[ed] better grain quality and contribute[d] to a reduction in labor and water inputs by facilitating the adoption of the direct-seeding method of crop establishment” (pp. 46–47) but

that their yields did not prove superior to second-generation modern varieties. And the status of one of them as “the mega-variety” (p. 49), ranking as the most planted cultivar from 1986 to 1999 among farmers in the sample and remaining among the five most planted for another five years, ought to add perspective to understandings of “the Green Revolution” in Southeast Asia. Also noteworthy, and heartening, is the minimal adoption among Loop Survey farmers of hybrid rice varieties, at least as of crop year 2011/12.

Fifth, farmer education, the adoption of integrated pest management and the release of second- and third-generation modern rice varieties brought a reversal in trends relating to insecticide use in Central Luzon, and in the Philippines more generally. After growing from the mid-1960s through the 1980s, use began to decline. The Philippines have today “by far the lowest use of insecticides among other Asian countries such as Thailand, Vietnam, Indonesia and China” (p. 86). On a discouraging note, however, the book also reports a decline in pest resistance among cultivars released in the past two decades and suggests that addressing this problem be a major agenda item for researchers and the developers of new rice varieties.

The six brief case studies that appear in the penultimate chapter of *Changes in Rice Farming in the Philippines* bring vividness to the account of change that preceding chapters have traced by means of survey results. Making clear that the book is in fact about rather more than the operation of some tens of plots of land on which rice has been grown, the case studies draw on interviews conducted in 2013 and 2014, and on scrupulously maintained records from the various rounds of the Loop Survey. They include interviews with two farmers first surveyed in 1966, with the children of several other original respondents and with the grandson of yet another. They illustrate the continued, and complex, challenges of access to and control of water resources in Central Luzon, the considerable returns to investment in education in the form not only of remittances from younger family members but also of know-how applied to farm and related business practices, the unmistakable improvement in housing stock, and the household-level diversification of economic activities away from exclusive dependence on rice agriculture. In

spite of this pattern of diversification, the case studies of those among families described whose activities remain substantially focused on rice agriculture point the way towards the continued viability of the Central Luzon rice economy. While the duration of continuous contact between IRRI researchers and the case-study farm families is striking, one wonders whether the authors' evident interest in interviewing long-time respondents to the Loop Survey or their heirs for these studies has not introduced a certain selection bias.

The Central Luzon Loop Survey "is perhaps the longest continuous survey of rice farming and rice farm families in existence" (p. 85). On one level, it charts the same transition away from family farms and towards a more diversified rural sector and the same rise in opportunities for formerly rural people outside the rural sector that have been evident in many parts of Southeast Asia. On another level, its deep, even vivid, concern with Central Luzon ought to lead scholars interested in other parts of the region to turn to this book in search of valuable comparative perspective. On still a third level, the understandings of recent patterns of change in Pampanga, Nueva Ecija, Tarlac and neighbouring provinces that the book advances represent a stimulating complement to, for example, the historical scholarship of Larkin (1972) and Kerkvliet (1977) and the work on more recent developments of Kerkvliet (1990) and Claudio (2013), all on these same areas.

Curiously, *Changes in Rice Farming in the Philippines* is silent on the question of whether the leadership of IRRI and its social sciences division have plans to conduct further rounds of the Central Luzon Loop Survey in the future. Students of Philippine and Southeast Asian society and of the rural economy will be united in hoping that it does.

#### NOTES

1. The social sciences division of the International Rice Research Institute has made numerous sets of farm-level data collected since the mid-1960s available at <<http://ricestat.irri.org/fhsd/php/panel.php>>. These include the Central Luzon Loop Survey data.

2. IRRI researchers conducted the Central Luzon Loop Survey in the wet and dry seasons of the 1966/67, 1970/71, 1974/75, 1979/80, 1982 (wet season only), 1986/87, 1990/91, 1994/95, 1998/99, 2003/04, 2007/08, and 2011/12 crop years.

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*Ancient China and the Yue: Perceptions and Identities on the Southern Frontier, c.400 BCE–50 CE*. By Erica Fox Brindley. Cambridge: Cambridge University Press, 2015. xix+302 pp.

This book is very well researched, with copious detail and documentation. Scholars will appreciate it, but the general reader will find it difficult going at times. As someone who has researched archaeological, ethnographic and linguistic aspects of the Yue (越,