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Book reviews

Production Rights in European Agriculture
Barthelemy, Denis and Jacques David (Eds.), Elsevier Science, Amsterdam, 2001, 260 pp., US$ 127, ISBN: 0-444-50823-6

Generally, in the Western world, the production rights of private agricultural landowners are jealously safeguarded by the prevailing legal system. Broadly speaking, precisely how the land is allocated to the production of different commodities, and the quantity of each one is left to the discretion of the owner. There may, of course, be minor restrictions concerning, for example, the production of illegal crops. As far as commercial agriculture is concerned, the farmer's allocation of land and other resources to different commodities is made in general accordance with market principles. Under a landlord/tenant system, a tenant's production rights are the same as those of an owner, apart from possible restrictions embodied in the tenancy agreement.

Problems arise with the safeguarding of private production rights in agriculture should the government decide to use production subsidies in protecting domestic agriculture. Then, mainly for budgetary reasons, the commodity mix, as well as levels of production, may become the concern of the government, even at the level of the individual farm. Thus, a conflict may arise between the income maximising interests of individual farmers, all other things being equal, and the interest of the government in realising its agricultural policy goals at minimum cost. Farmers wishing to participate in government support programmes may be required to surrender some of their private production rights to the government.

This is an English translation of a book originally published in French. It is multi-authored by a European team consisting mainly of British, Dutch, French and German members. Both the editors are French. In broad terms the subject-matter is the origin, evolution and operation of agricultural production rights within the CAP, as viewed from both economic and legal standpoints. The book's authorship is multidisciplinary, some of the contributors being economists and others lawyers.

An introductory chapter by the editors emphasises that production rights represent specific forms of property. Also, they are usually possessed exclusively, so that their use by one owner excludes their use by rival owners. However, this does not invariably hold, as with the beef special premium, the ownership of which is restricted only by an upper limit on the size of herd. The introduction also underlines how the application of production right instruments by different member states has been influenced by divergent interpretations of the objectives of the CAP. First, there are those viewing agriculture as being organised around the principles of the market economy. Second, are those contending that agriculture must be organised primarily according to non-market rules, in order to maintain its special position vis à vis the remainder of the economy.

Following the introduction, the book consists of five parts. Parts 1 and 2 both deal with milk quotas in Germany, France, The Netherlands and the UK, the four leading milk-producing countries in the EU. Part 1 concentrates on the economic and social aspects of milk quotas in each of the countries concerned. An inter-country comparison of changes in the size and location of dairy farms during 15 years with milk quotas is also included. Part 2, concentrates more specifically on the legal ramifications of milk quotas, and underlines the wide divergences amongst national interpretations of the relevant CAP regulations.

Part 3 contains parallel studies, in France and the UK, of the application of the cow suckler premium, as reformed in 1992. Part 4 contrasts the 'liberal' method of managing the transfer of production rights, as practised in Denmark, Germany and Quebec, with the much more 'controlled' method practised in France. Part 5 compares the conditions leading to

the introduction of quotas and other production rights within the CAP with those underlying the adoption of similar instruments in the US. This comparison is made within the context of WTO negotiations on international agricultural policy and trade reform.

A concluding chapter contrasts the 'liberal model' of the CAP with the 'model of solidarity'. The former concept is based upon what the authors term the 'commutative justice of the market'. The latter is based on the ideal of distributive justice for those working in agriculture, entitling them to standard of living/income equivalent to that of the non-agricultural population. In referring both to the need for rising productivity in agriculture and a fair standard of living for farmers, Article 39 of the Treaty of Rome recognises both these conceptual models. If forced to choose between these alternative models of the CAP, economists tend to favour the liberal model in which market forces play a dominant role. By comparison, lawyers tend to adopt a more neutral stance in discriminating between the models. Their main concern is that whatever the regulatory framework of an agricultural policy instrument may be, it should be both tightly drafied and operate effectively in practice in order to achieve the intended goals of policy makers.

This book brings home the legal and administrative complexity of interpreting and applying CAP regulations on agricultural production rights across EU member states. Where an international dimension enters the picture, as where the EU becomes in involved with WTO negotiations and agreements, the need to harmonise international legal obligations with both community regulations and national laws, customs and social practises must add greatly to the complexity of the administrative task. No wonder that the end result is frequently a messy compromise between an ideal solution and what it is feasible to achieve in practise. The allocation and enforcement of milk quotas in different member states is a good case in point.

The intended target readership of this book is a little difficult to discern. It is not a beginner's book in any sense. Be the economists, lawyers or laymen, readers will need to have considerable prior knowledge of the origins of the CAP, and how it works, in order to supplement that knowledge by reading the book. Ideally, one likes to think that economists will read it to gain a clearer picture of the legal aspects of its subject matter and vice versa in the case of lawyers.

The book is well produced and clearly printed but lacks an index. This is serious omission in an academic study of this kind. However, it is a scholarly work which deserves the attention of all students of the CAP, not only lawyers and economists, but politicians as well.

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The Politics of Precaution: Genetically Modified Crops in Developing Countries
Robert L. Paarlberg, Johns Hopkins University Press, Baltimore, 2001, US$ 20, 181 pp., ISBN: 0801866685

Robert L. Paarlberg does an excellent job of covering the politics of precaution with respect to GM crops in developing countries and shows how selected countries are dealing with this complex issue. Chapter 2 makes the book immediately appealing to a broad audience. This chapter, entitled "Classifying Policies toward GM Crops and Foods," offers a concise and well documented discussion of merits of public versus private sector control. Policies designed to accelerate the spread of GM crops and food products are classified into: promotional, permissive, precautionary and preventive policy postures. The policy choice problem can be seen as focused on important policy areas such as: intellectual property rights, bio-safety, trade, food-safety and consumer choice, and public research investment policy. Using these policy areas for comparison, four countries: Kenya, Brazil, China and India, are discussed.

The book presents a general and clear description of above issues for the four countries. In the case of Brazil, a realistic description of the situation with GMOs is provided. At present, the cultivation and commercialisation of GM products are still prohibited, despite pressures from producers and private companies to obtain authorisation to cultivate this type of product, particularly soybeans.

Research and development of scientific evidence in relation to GM foods and crops have been retarded due to political and social pressures from international environmental and non-governmental organisations. A review of press clipping and articles published in the 2 years since this book was drafted demonstrate that scientific uncertainties and ideological controversies continue.

The book emphasises the economic benefits of GM crops for rural producers, especially in countries such as Brazil. Several economic studies around the world have indicated that these crops may reduce production costs by 10–15% or more (without labelling requirements). However, concerns over human health and environmental risks have resulted in their prohibition to date in many countries. The author provides references that indicate that until now there is little evidence of any harm due to biohazards or unwanted gene flow. A review of literature for the last 2 years would not change the picture.

Research institutes, and private companies in general, have concentrated their arguments for GM products on economic benefits to rural producers. This may prove to be an incorrect marketing and communication strategy because the opposition to GM crops is based primarily on potential negative social and environmental externalities, as opposed to economics. For this reason, it is more important to show consumers, politicians, lawyers, and non-governmental organisations that GM products are safe for human health and the environment, rather than show that they have economic benefits.

Two very important points made in the last chapter are:

> ... The industrial country NGOs such as Greenpeace that opposed GM crops had failed to mobilise in time to block bio-safety approval of these crops in rich countries, but they hoped they could make up for that failing by blocking approvals in poor countries (p. 153).

> ... If public institutions, especially governments in both the developed and developing world, were willing to invest more financial resources in shaping this new technology, the benefits would more often be targeted toward poor farmers and reach those farmers at an affordable price. Social resistance could then diminish as well, since it would be easier view GM crops as the products of a national development strategy rather than as alien technologies introduced by profit-hungry foreign companies (p. 157).

Although the book is very readable and remarkably well timed, from the point of view of someone in a developing country, some criticisms can be made. The book does not present the situation and the policies of developed countries, such the US and Canada that are the largest producers of GM crops. It also does not explore the potential of integrating food, preventive medicines (like vaccines) or even curatives medicines, that could be introduced through GM products. It also does not show the potential challenges of integrated gene management and integrated natural resources management in solving food, health and environmental protection of both developing and developed countries. If differential responsibility principles approved during the RIO 92 conference are applied, there should be a balance between GM crops produced as "private goods" and as "international public goods," particularly when they can affect health and hunger. Since this topic will not go away soon, it is hoped that a new revised edition of this book can include the above suggestions and be published in the near future.

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Indian Agriculture: Four Decades of Development
G.S. Bhalla, Gurmail Singh, Sage Publications, New Delhi, 2001, 308 pp., US$ 50, ISBN 0761995005

In the midst of on-going debate on the pace and sequencing of reforms in Indian agriculture, this

book provides an excellent background and historical perspective on the issues, with supporting empirical analysis. The study reported on in the book was the outcome of the research project "Recent developments in Indian agriculture—A District-level Study" financed by the Planning Commission, Government of India. The study was aimed at analyzing the growth performance of Indian agriculture at the state and district levels during the trienniums 1962–1965, 1970–1973, 1980–1983 and 1990–1993, with the major objective of capturing the changes and disparities in the spatial pattern of levels and growth of agricultural output that have been brought about primarily as a consequence of the adoption of new seed-fertilizer technology over this period.

The book is divided in to six chapters. Chapter I, by way of introduction, defines the context and scope of the study. Chapter II is devoted to an analysis of the spatial pattern of changes in agriculture at the state level during different triennium periods defined for the study. A brief analysis of growth in cropped area, output and yield of major crops is first undertaken along with a discussion of the changes in the cropping pattern at the all-India and state levels followed by a detailed analysis of the spatial pattern of the performance of the total crop sector. In chapter III, an attempt has been made to study the problems of spatial variation in agricultural productivity and to examine the relationship between the levels of productivity and use of modern farm inputs at the district level. Chapter IV focuses mainly on district level analysis of output growth. Chapter V is devoted to an analysis of the levels and growth of male agricultural workers' productivity at the district level during the respective periods. Brief summary and conclusions are presented in chapter VI.

The study concludes that the impact of new technology was not uniform across all regions in the country. It was significant only in the northwest and southern regions, with relatively less impact in rain-fed areas of the central and eastern regions, especially impacts on crop yields and outputs. The spread of green revolution was rather slow during the first 20 years but it gained momentum during the 1980s. Although the area under wheat and rice rose sharply in the green revolution states, no visible change, especially from cereals to non-cereals, took place in the cropping pattern at the all-India level.

The accelerated growth of agriculture has registered significant impacts on agricultural production in the country since the early 1980s, and registered a much higher rate of growth (3.4%) in agricultural output and a much more diversified regional cropping pattern than were experienced earlier. Labor productivity has registered significant growth as a result of high agricultural growth during the 1980s and afterwards. The study assessed the need for infrastructural support such as irrigation, roads and markets to ensure success in adoption of new technology, and found a positive relationship between use of modern inputs and the levels of yields and outputs. Realisation of gains from use of modern inputs, however, is constrained by pest and disease and by inefficiencies in farm production.

The study findings emphasise the need to give a very high priority to investments in research, development and extension. Crop diversification and a focus on technological improvements in new areas such as biotechnology for high value crops such as fruits and flowers, and allied areas such as fisheries and animal husbandry are the suggested policy prescriptions for ensuring sustainable agricultural growth in the country.

Detailed data from 281 districts on area and value of output for 35 crops along with levels of inputs used in 1962–1965, 1970–1973, 1980–1983 and 1990–1993 are annexed in the book, which can be of great value to researchers. However, the question arises as to how far one can go in analyzing growth and drawing inferences based on secondary data for districts demarcated by administrative/physical boundaries and still be effective in capturing the factors affecting agricultural growth that depend on agro-climatic conditions. Analysis based on agro-climatic zones might give more insights. The authors must be aware of this, however, and have tried to be flexible in their approach. As indicated by the authors themselves, not including area under mixed crops, especially pulses and oilseeds, in the analysis may be a limitation. Though the study attempted to analyse the major factors of production such as land and labour, inclusion of capital would have enlarged the perspective of the study, thereby ensuring total factor productivity analysis.

Despite these minor limitations, the book covers many aspects of growth in Indian agriculture during

the last four decades and is a welcome addition to the literature on the subject.

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The Economic Value of Water Quality

John C. Bergstrom, Kevin J. Boyle, Gregory L. Poe (Eds.), Edward Elgar Publishers, Northampton, MA, 2002, 192 pp., Hardcover US$ 75, ISBN: 1840640472

A continuing problem for policy makers is attaching economic values to environmental resources that are targets for protective policies. Federal agencies have been required by Executive Order to conduct cost–benefit analysis of proposed regulations since 1975. The issue of benefits for environmental protection is therefore raised every time the Environmental Protection Agency (EPA) proposes changes to its regulations governing clean air, clean water, and endangered species, to name a few. Guidance on how a policy analyst can develop credible estimates is always welcome.

The book *The Economic Value of Water Quality*, edited by John C. Bergstrom, Kevin J. Boyle, and Gregory L. Poe, provides such guidance for valuing groundwater resources that are used for drinking water. The book highlights some of the key features of theory, practice, and applications of valuation of potable groundwater for public policy. Current issues facing resource managers when evaluating the benefits of groundwater protection are fully described. Inferences can also be drawn for valuation of other resources such as surface water.

The book consists of eight chapters, each written by a different set of authors. The first provides a general economic framework for estimating the economic value of water quality that the reader infers will be used in subsequent chapters. Option price is presented as the appropriate welfare measure, where it is defined as the willingness-to-pay for an action that changes the probability that water is contaminated. The next four chapters present case studies of how economic valuation techniques can be used to estimate the value of groundwater. These include studies in Georgia, Maine, Wisconsin, Pennsylvania and Ohio. Each case study focuses on a different issue of groundwater valuation, including the determinants of groundwater quality, uncertainty, and the level of information provided respondents in contingent valuation (CV) surveys.

Two chapters address the possibilities and problems associated with benefits transfer of groundwater value estimates. These chapters are particularly important for resource managers because time and resources for carrying out contingent valuation surveys are often unavailable. One chapter presents an evaluation of past groundwater valuation studies using meta analysis to look for systematic elements that would validate in some sense consistency between these studies. A concluding chapter ties together the different issues raised in the book.

One of the more interesting findings presented in the book has to do with the role of information in CV studies. Poe and Bishop conclude that future groundwater valuation research should adopt a new valuation paradigm where willingness-to-pay estimates are based on respondents having specific information about their actual exposure levels to groundwater contaminants. The key finding of their research was that a full information approach that includes both general and specific information about health exposures and risk helps respondents define their reference and target risks. It is unavoidable that this finding brings into question the results of the other case studies presented in the book. However, the editors point out in the summary chapter that more general or subjective safety information, similar to the type employed in the other case studies, could be used if more specific information were unavailable. Nevertheless, using such information could result in biased value estimates.

The most important chapter of a book made up of individual research papers is the chapter in which the editors tie all the possibly disparate findings together. The editors do an excellent job in this regard. They make specific recommendations on the design of CV surveys, such as providing respondents data on the ex ante and ex post probabilities of contamination. They also review some problems with benefits transfer that were raised in the two chapters covering this subject, but again make recommendations for employing a tool that is important for policy makers.

Something missing from the introductory and the summary chapters that I found somewhat surprising was reference to the 1993 National Oceanographic and Atmospheric Administration (NOAA) panel report's recommendations for designing and implementing CV studies. While this report is almost a decade old, it is still the prominent discussion of standards for CV studies, particularly those to be used for policy decisions. The recommendations in this book are largely consistent with the NOAA report. Placing the findings of this book in the context of the previous debate about environmental valuation would suggest that the profession is advancing in a systematic way towards refining the science (and art) of environmental valuation.

No book of this type is complete without recommendations for future research. The editors close with three clear areas for future research: assessing the validity of water valuation estimates through experiments; greatly increasing the 'library' of water valuation studies; and refining guidance for successful benefit transfer. All are relevant recommendations. Following through on these recommendations would benefit not only the management of potable groundwater resources, but of other environmental resources as well.

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Transforming the Rural Asian Economy: The Unfinished Revolution
Mark W. Rosegrant, Peter B.R. Hazell, Oxford University Press, Oxford, 2000, 512 pp., US$ 35 (on-line, free), ISBN: 0-19-592448-7 (paperback), ISBN 0-19-592 447-9 (hardback)

The Growth and Sustainability of Agriculture in Asia
Mingsarn Santikarn Kaosa-ard, Benjavan Rerkaem, with contributions by Sheller Grasty, Apichart Kaosa-ard, Sunil S. Pednekar, Kanok RerKasem, Paul Auger, Oxford University Press, Oxford, 2000, 303 pp., US$ 30 (on-line, free), ISBN: 0-19-592450-9 (paperback), ISBN 0-19-592450-5 (hardback)

Rural Financial Markets in Asia: Paradigms, Policies, and Performance
Richard L. Meyer, Geetha Nagarajan, Oxford University Press, Oxford, 2000, 401 pp., US$ 30 (on-line, free), ISBN 0-19-592452-5 (paperback), ISBN 0-19-592451-7 (hardback)

The Quality of Life in Rural Asia
David E. Bloom, Patricia H. Craig, Pia N. Malaney, Oxford University Press, Oxford, 2001, 310 pp., US$ 30 (on-line, free), ISBN 0-19-592454-1 (paperback), ISBN 0-19-592453-3 (hardback)

The Evolving Roles of the State, Private, and Local Actors in Rural Asia
Ammar Siamwalla, with contributions by Alex Brillantes, Somsak Chunharas, Colin MacAndrews, Andrew Macintyre, Fred Roche, Oxford University Press, Oxford, 2001, 413 pp., US$ 30 (on-line, free), ISBN 0-19-592456-8 (paperback); ISBN 0-19-592455-X (hardback)

Rural Asia: Beyond the Green Revolution
Asian Development Bank, Asian Development Bank, Manila, 2000, 187 pp., US$ 10 (on-line, free), ISBN: 971-561-272-5 (paperback)

In 1998–1999, the Asian Development Bank (ADB) sponsored a study to "examine the achievements and prospects of rural Asia and to provide a vision for the future of agriculture and rural development in Asia into the next century". The study ("A Study of Rural Asia" in six volumes) was designed as a team effort using ADB staff and international experts under the guidance of an interdepartmental steering committee. Five working groups prepared the "background reports" the titles and authors of which are shown above. The sixth volume listed above presents an overview of the study, and is thus a synthesis of the other five.

It is a challenge in a review to do justice to a comprehensive study of rural Asia consisting of more than 2000 pages. My major task will be to tell the prospective reader how to approach this study, to highlight some of the more important issues, and to identify one

or two gaps. But, I should say at the outset, it is unfortunate that this study seems to have received so little attention. This may be in part due to the distribution. At Cornell University, where I worked on this review, I found the volumes scattered in three separate library collections, and I was the first person to take out all but one of the volumes.

The starting point for most readers should be the sixth or overview volume. The sections of this text cover lessons from the rural transformation, meeting the challenges of the future, alternative futures for Asia, and conclusions and recommendations. Equally important are the appendices that summarise the findings of each of the five background volumes.

The lessons learned can be summarized as follows. Agricultural development, as embodied in the *green revolution* is for most developing Asian economies a necessary but not a sufficient condition for broad-based rural development. Rural development implies rural growth but also encompasses poverty reduction, environmental sustainability, and improved quality of life. (This perspective is very much in keeping with the World Bank's 2002 World Development Report and the Earth Summit in Johannesburg, both of which address the issue of *sustainable development.*)

In an effort to achieve these goals governments must adapt to a changing world, one that will be increasingly impacted by: globalisation, the demographic transition, the biotechnology revolution, increasing water scarcity and land degradation. To meet these challenges it will be necessary to reinvent governance structures, public institutions, and policies. A modest increase in political and financial commitment to agricultural and rural development will be required to sustain rural development. Particularly important are investments in rural people (health and education), in rural infrastructure (roads, electricity, communications, irrigation), and in agricultural research and extension. However, projections using IFPRI's *impact model* suggest that even with high levels of government investment, poverty and malnutrition will be a serious problem in rural South Asia for the foreseeable future.

The overview volume provides excellent material for non-professionals or for classroom readings and discussion. The five volumes (referred to by the ADB as "background reports") provide much more comprehensive assessments of specific aspects of agricultural and rural development in Asia, past, present, and future. Each of the volumes approaches the issues surrounding agricultural and rural development from a different perspective: (1) the transformation of rural Asia, (2) sustainability of agriculture, (3) rural financial markets, (4) quality of rural life, (5) the changing role of the state—the whole providing a well rounded picture of development and change. I will comment only on the first and the fifth volumes, both of which provide a broad overview of changes and challenges, while the other three deal with more specific issues. Other volumes have been or will be reviewed by others in separate issues of this journal.

The first of the five volumes by Rosegrant and Hazell provides an excellent overview of the transition in the rural Asian economy to date and the policies and institutional challenges facing the region. The major sections of this book include: agricultural growth and economic transformation, growth and policies for poverty reduction, agricultural diversification and commercialisation, the rural non-farm transformation, sources of agricultural growth, the evolution of cereal and livestock supply and demand, impacts of trade, macroeconomic, and price policy in Asia, economic reform in Asian transition economies, the financial and economic crisis in East and Southeast Asia, environmental and resource challenges to future growth and alternative futures for Asian agriculture and food security. The author's conclusions fall very much in line with what is stated above in the overview volume. Indeed this volume can stand alone as a very comprehensive review and assessment of future prospects.

The authors are far more sanguine than this reviewer about prospects for the new WTO rounds leading to freer trade in agriculture. Their discussion seems to overlook the more obvious fact (and a central point of contention at the Johannsburg Earth Summit) that while the Asian developing economies were reducing trade barriers, the developed (even the newly developed) economies were raising theirs. The subsidisation of agriculture is strongly supported by domestic politics in the developed countries and results in a large negative impact for both developing and developed countries. Free trade in agricultural commodities seems out of the question for the foreseeable future, and in this environment it does a disservice to preach free competition. The impact on cereal grain prices is particularly significant since

so much of Asia still depends on the sale of cereal grains for a living. We may now have reached the point where developing countries begin to protect their farmers by restricting low-price imports.

The volume by Siamwalla et al. provides an excellent discussion of the changing institutional structure of Asian agriculture and the changing roles of government and the private sector. The themes and issues in this volume include: background to the evolving paradigms and practices of rural development, roles of actors in the provision of rural goods and services, devolution and decentralisation: individual country experiences. The evolving roles in the provision of goods and services are treated in some depth and includes: the changing structure of research and extension, irrigation management under resource scarcity, the political economy of food grain and fertiliser distribution, and rural human capital.

The discussions on research and irrigation are excellent. Nearly all consultants and observers call on Asian countries to invest more in research and extension and to better manage water resources and irrigation systems. The effective management of these two areas is seen as essential to sustain agricultural and rural developments. But invest in research on what and by whom? Siamwalla explains how Asia has moved beyond the simplistic pattern of the green revolution R&D. Attention must focus on how to properly integrate the roles of the public and private sectors in research and extension. This role will vary by commodity, and developing a flexible and decentralised institutional structure will be challenging.

In the case of irrigation, Siamwalla points to the *groundwater revolution* as the second most important development is Asian agriculture after the *green revolution* and this has been largely privately financed. Many Asian governments under budgetary pressure are attempting to devolve financial and management control of irrigation to local user groups with mixed success. At the same time, as water resources become scarce, governments are being called on to play a stronger role in the management and allocation of water resources at the basin level.

Asian agriculture will be vastly different in the future from what it has been in the past. It is already being impacted by a growing shortage of natural resources, overexploitation of groundwater, a slowing of agricultural productivity growth, falling cereal grain prices, and a slowing of agricultural productivity growth, and finally globalisation. Agriculture as a share of GDP is declining steadily. Those who can will shift production into higher-valued crops, or shift out of agriculture altogether. The rural economy increasingly depends on non-agricultural employment and on remittances from jobs in urban areas or overseas. Changes are taking place rapidly and the challenges faced by Asian economies are perhaps even more dramatic than outlined in these volumes.

This study has been criticised by some for not giving adequate guidance to the Asian Development Bank with respect to its own strategies. However, this was not strictly in terms of reference. Strategies for rural development in specific countries will vary over time and space. The goals of rural development are far more complex than the simple green revolution strategy—produce more food grains. Faced with the effort to simultaneously achieve food security, alleviate poverty, sustain the environment, and improve the quality of rural life, there is a danger that countries and international organizations will encounter (or are already encountering) what some have referred to as "mission drift". In the effort to achieve too much with too few resources there is a loss of priority and focus and a tendency to be distracted by current donor fads. The development banks are not immune to these distractions.

For the Asian Development Bank the message of this study seems clear. To meet the challenges of the future, rural Asia will need better education and communication. Thus, ADB should do what it has always done well—that is to say, help nations to build a strong rural economy by investing in rural infrastructure (roads, electricity, communications, and market infrastructure) and in human capital (health and education).

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