Natural Resources and Economic Development

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Introduction

As the title indicates, this book intends to explore the contribution of natural resources to economic development. The main geographical focus will be on the so-called "developing world," i.e. the low and middle-income countries of Africa, Asia and Latin America. There has been increased interest in the application of natural resource economics in these countries, now that it has been recognized that the environment is not a "luxury" for economic development but contains natural "capital" fundamental to growth and development in poorer economies.

Most economic texts and monographs do not address the role of natural resources in economic development in much detail. This is unfortunate, as the environmental problems faced by developing countries are considerably different from those occurring in industrialized economies. Many rural populations depend on the direct exploitation of natural resources, for agriculture, livestock raising, fishing, basic materials and fuel, both to meet their own subsistence requirements as well as to sell in markets for cash income. The lack of basic water supply, sanitation and other infrastructure services suggests that increased public provision of resource-based services is highly valued by many households. Rapid land use change has meant that many natural environments and habitats are disappearing quickly, with the result that critical ecological resources and functions are being disrupted or lost. Growing populations have further increased the demand for natural resource use and conversion. Finally, for many low and middle-income economies resource-based development and primary commodity exports are the main engines for growth and long-term development.

In short, this book begins with the premise that how natural resources are used for economic livelihoods and development in the low and middle-income countries of Africa, Asia and Latin America is fundamentally different from other economies of the world. Or, as

the quote at the beginning of Chapter 8 from Partha Dasgupta (1993, pp. 269 and 273) puts it: "People in poor countries are for the most part agrarian and pastoral folk ... Poor countries are for the most part *biomass-based subsistence economies*, in that their rural folk eke out a living from products obtained directly from plants and animals".

Ultimately, this book is about the actual and potential contribution of natural resources to the *sustainable economic development* in such economies. Natural resources are clearly central to this process: many low and middle-income economies are highly dependent on the exploitation of their "natural capital" to secure the needs of the present generation as well as to develop and meet the needs of future generations. However, the evidence presented throughout this book indicates that increasing economic dependence on natural resources in today's low and middle-income economies is associated with poorer economic performance. This poses an intriguing paradox: why is it that, despite the importance of natural capital for sustainable economic development, increasing economic dependence on natural resource exploitation appears to be a hindrance to growth and development in today's low and middle-income economies?

Historically there appear to be many examples of successful resource-based development, which would suggest that this paradox appears to be unique to the current era. In fact, one could argue, as the historian Walter Prescott Webb (1964) first proposed in analyzing the exploitation of the world's "Great Frontier," that much of the 500 years of global economic development has been characterized by a pattern of capital investment, technological innovation and social and economic institutions dependent on "opening up" new frontiers of natural resources once existing ones have been "closed" and exhausted. Such development was so successful, particularly during the Golden Age of Resource-Based Development (1870–1913), that some of the early theories in development economies, such as the staples thesis and the vent-for-surplus theory of trade, took it for granted that natural resource abundance, trade and growth were mutually reinforcing (Innis 1930 and 1940; Myint 1958; Watkins 1963).

However, with the benefit from hindsight afforded by the present era, we now know that, simply because a developing economy or region is endowed with abundant natural resources, the country may not necessarily end up exploiting this natural wealth efficiently and generating productive investments. Or, as Wright (1990, p. 666)

suggests: "there is no iron law associating natural resource abundance with national industrial strength".

Several theories have been proposed to explain why increasing economic dependence on natural resources in today's low and middle-income economies is associated with poorer economic performance. One popular explanation is the *resource curse hypothesis*, i.e. the poor potential for resource-based development in inducing the economy-wide innovation necessary to sustain growth in a small open economy, particularly under the "Dutch disease" effects of resource-price booms. Other theories have suggested an *open access exploitation hypothesis*, i.e. trade liberalization for a developing economy dependent on open access resource exploitation or poorly defined resource rights may actually reduce welfare in that economy. Finally, some economists have proposed a *factor endowment hypothesis*. The abundant natural resources relative to labor (especially skilled labor), plus other environmental conditions, in many developing regions have led to lower economic growth, either *directly* because relatively resource-abundant economies remain specialized for long periods in primary-product exports or *indirectly* because some factor endowments generate conditions of inequality in wealth and political power that generate legal and economic institutions inimical to growth and development.

As suggested in this book, it is likely that these three hypotheses could be complementary rather than competing in their explanations as to the poor economic performance of resource-rich developing economies. It is possible that the processes outlined by all three hypotheses could operate simultaneously, and even interact, to militate against "sustainable" natural capital exploitation in low and middle-income economies: resource endowments (broadly defined) may shape institutions, and institutions in turn affect the management regime of natural resources (open access, rent-seeking and other failures) and both influence the long-run performance of the economy (the resource curse).

However, this book also argues that these three hypotheses focus mainly on explaining only two "stylized facts" concerning natural resource use in low and middle-income economies, namely the tendency for these economies to be resource-dependent (in terms of a high concentration of primary product to total exports), and for increasing resource dependency to be associated with poor economic performance. None of the current hypotheses address two additional and equally important "stylized facts": development in low and middle-income

economies is associated with land conversion, and a significant share of the poor population in low and middle-income economies is concentrated in fragile lands.

Thus this book offers another perspective on the resource-development paradox, which could be termed the *frontier expansion hypothesis*. The starting point for this hypothesis is the two stylized facts of resource use in developing countries that are often overlooked in the current literature on the role of natural resources in economic development: namely, the tendency for resource-dependent economies to display rapid rates of "frontier" land expansion, and for a significant proportion of their poorest populations to be concentrated in fragile areas. From this pattern of development several conclusions emerge. First, in many developing countries much frontier land expansion occurs in order to absorb the rural poor. Second, policy and market failures in the resource sector and land markets, such as rent-seeking behavior and corruption or open-access resource exploitation, contribute further to the migration of the rural poor to the frontier and excessive land conversion. Finally, as a result, frontier-based development in many poor countries is symptomatic of a pattern of economy-wide resource exploitation that leads to insufficient reinvestment in other productive assets of the economy, and thus does not lead to sustained growth. There is clearly a "vicious cycle" of underdevelopment at work here: frontier land expansion and resource exploitation does little to raise rural incomes and reduce poverty in the long run, and results in few efficiency gains and additional benefits for the overall economy.

The consequence is that such frontier-based development and resource exploitation in many present-day low and middle-income economies often falls far short of the minimum conditions for attaining sustainable development. What little rents have been generated from this development process have not led to sufficient investments in other productive assets and in more dynamic sectors of the economy. Instead, many poor economies exhibit a "dualism within dualism" economic structure characterized by continuing dependence of the overall economy on mainly primary product exports, a large proportion of the population concentrated on fragile land, and a high degree of rural poverty. Any resource rents that are earned from frontier "reserves" are often reinvested in further land expansion and resource exploitation. The frontier remains an isolated enclave, and there are very little

economy-wide efficiency gains and benefits. In addition, this process tends to be inequitable. The resource rents accrue mainly to wealthy individuals, who have increased incentives for "rent-seeking" behavior that is in turn supported by policy distortions that reinforce the existing pattern of allocating and distributing natural resources. The poor are therefore left with marginal resources and frontier land areas to exploit, further reducing their ability to improve their livelihoods, and of course, to generate and appropriate significant rents.

This book could end with these rather pessimistic observations. However, that would be neither fruitful nor helpful to anyone interested in encouraging successful resource-based development in today's low and middle-income economies. Instead, this book addresses an additional, very pertinent question: Is there some way in which policies and institutions in developing countries could be modified to change their current pattern of resource-based development from a "vicious" to a "virtuous" cycle? The short answer is "yes," but not without difficulty. This requires achieving four important long-run goals:

- Reinvesting resource rents in more productive and dynamic sectors of the economy, which in turn are linked to the resource-exploiting sectors of the domestic economy.
- Developing political and legal institutions to discourage rent-seeking behavior by wealthy investors in the natural resource sectors of the economy.
- Instigating widespread reform of government policies that favor wealthier investors in markets for valuable natural resources, including arable land.
- Targeting additional policies and investments to improve the economic opportunities and livelihoods of the rural poor, rather than relying on frontier land expansion and urban migration as the principal outlet for alleviating rural poverty.

Achieving the first goal requires fostering resource-augmenting technological change, frontier-mainstay integration and economy-wide knowledge spillovers. On available evidence, this seems to be a tall order for many present-day low and middle-income economies. As discussed in the concluding chapter, however, there are three countries – Botswana, Malaysia and Thailand – that may provide instructive examples as to how this might be accomplished. As for the other three objectives, achieving them will mean overcoming pervasive policy, market and institutional distortions that, on the one hand, encourage

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