

IRSA Book Series on Regional Development No. 7

**REGIONAL DEVELOPMENT,
ENERGY AND THE ENVIRONMENT
IN INDONESIA**

**Edited by
Bernadette Robiani
Budy P. Resosudarmo
Armida S. Alisjahbana
Aslamia Rosa**



Indonesian Regional Science Association



Sriwijaya University

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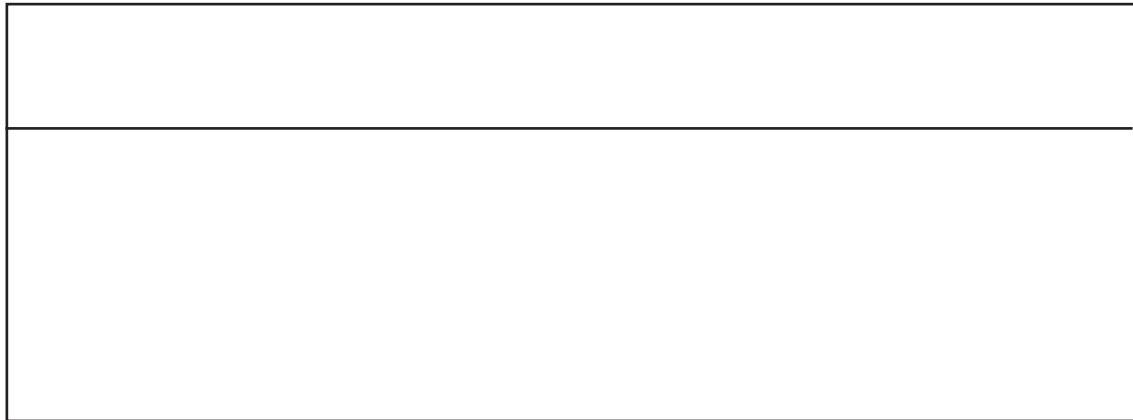
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LIST OF CONTRIBUTORS

M. Irfan Affandi

Lecturer
Department of Agricultural Socio-Economics
Faculty of Agriculture University of Lampung

Iwan Jaya Azis

Professor
Department City and Regional Planning
Cornell University

Muhammad Zilal Hamzah

Lecturer
Graduate Program
Indonesian Business School-Jakarta

Hefrizal Handra

Lecturer
Centre for Regional Finance Studies
Faculty of Economics-Andalas University

Habsari Kuspurwahati

Researcher
Agency for the Assessment and Application of Technology

Deni Kusumawardani

Lecturer
Faculty of Economics
Airlangga University

Ditya A. Nurdianto

PhD Candidate
The Arndt-Corden Division of Economics
The Australian National University

D.S. Priyarsono

Lecturer
Department of Economics
Faculty of Economics and Management
Bogor Agricultural University, Indonesia

Budy P. Resosudarmo

Fellow
The Arndt-Corden Division of Economics

The Australian National University

R. Suryadi

Lecturer
Graduate Program
Indonesian Business School

Syamsurijal, A.K

Lecturer
Faculty of Economics
Sriwijaya University

Waleerat Suphannachart

PhD Candidate
The Arndt-Corden Division of Economics
The Australian National University

Arief A. Yusuf

Lecturer
Faculty of Economics
Padjadjaran University

INTRODUCTION

Bernadette Robiani, Budy P. Resosudarmo, Armida Alisjahbana and Aslamia Rosa

This book contains 9 papers selected from papers presented at the 9th Indonesian Regional Science Association (IRSA) International Conference, entitled: “The Current and Future Issues of Regional Development, Energy and Climate Change”. 55 papers were presented at the conference, and 15 of them were submitted to be included in the book.

The conference was held on July 31–August 1, 2008, at Sriwijaya University in Palembang, South Sumatra. It was conducted by the IRSA, the Faculty of Economics and Graduate Program at Sriwijaya University, and the South Sumatra provincial government. The conference would not have been possible without generous financial support from the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO), Bank of Indonesia, Mayor of Palembang City, Bank of South Sumatra, Institute of Southeast Asian Studies (ISEAS), PT. PUSRI, PT. Bukit Asam, Penerbit Erlangga, Faculty of Economics and Graduate Program at the Sriwijaya University, and the active participation of those attending the conference.

Background

Since 2001 Indonesia has adopted various regional autonomy policies that on the one hand provide opportunities for regional governments to collect and retain for themselves more local revenues and to receive a higher proportion of transfers from the central government, but that on the other hand mean they have to take more responsibility for providing local public services and designing their own development plans. The implementation of these autonomy policies has so far not been without challenges.

Among the many challenges three issues emerged in early 2008. The first regards financing regional development. Many regions claim that the current equalization fund formula (*Dana Alokasi Umum* or DAU) is not correct, considering that

opportunities for creating local own-source revenues are limited. Due to this situation, these regional governments argue that they are neither able to provide high quality public services nor accelerate developments in their areas. Some efforts to increase local own-source revenues have resulted in heavy economic distortions and have counteracted efforts to open up the regions for investment and more trade.

The second issue relates to energy security. Regional development is now more vulnerable to external shocks such as the high price of oil, terrorist activities, environmental destruction and even the political stability of other neighboring countries. The high world price of oil has created an alarming issue of regional energy security. In particular, some regions worry that they will not be able to afford the energy needed for their developments.

The third issue relates to climate change and the environment. Worldwide, there is increasing pressure to commit to reducing CO₂ emission. Regional governments will also soon have to respond to these pressures and create policies inducing high economic growth and at the same time controlling CO₂ emission released by their regions.

This book aims to trigger discussion among researchers, academicians and practitioners as to how to overcome the challenges of regional development in Indonesia, particularly with regard to financing regional development, energy and climate change.

Furthermore, at present, many local governments (at district and provincial levels) are searching for new initiatives and programs to enable them to improve economic development in their regions. It is therefore expected that this book will provide policy makers with a platform to assess new ideas circulating among academicians and researchers in Indonesia and throughout the world.

Content of this Book

The book is divided into 3 parts. Part I concerns regional economics and development, Part II energy, and the last part climate change and the environment.

The first chapter in Part I is by Iwan Jaya Azis. It deals with the fact that Indonesia's rushed decision to decentralize in 2001 produced disappointing results in terms of regional growth and welfare improvements. He argues that this was not only due to lack of preparation and inappropriate policies, but also due to weak local accountability, widespread local capture, lack of voices or people's participation, and the absence of a proper incentive system for local leaders. A model is developed to show the role of these institutional factors in decentralization, in which multiple equilibria can be generated. It is revealed that the type of local leader will determine the decentralization outcome, and allowing greater people's participation is critical for welfare enhancement and minimizing local capture. This theoretical proposition is supported by empirical evidence based on a field survey. Serious institutional reform is therefore needed.

In the second chapter, Hefrizal Handra deals with understanding incentives for regional expansion after the enactment of Law 22/1999 on regional autonomy. This chapter reveals that Indonesia's shared revenue system is one of many financial incentives. The argument is mainly based on a case study in Bengkalis Regencies. It is one of the richest oil regions in Indonesia. Since the central government revenue from oil exploitation began to be shared with regions in 2001, Bengkalis received a substantial amount of revenue. It was expanded into four autonomous regions in 2000. Currently, there is an initiative to expand the region into three regencies. Although the interest of local elites is suggested as the main reason for the expansion proposal, the current shared revenue formula proved to be an important incentive. Using data from 2007, a simulation shows that the total amount of shared revenue received by those three new regency candidates is much higher than the total amount received by one Bengkalis.

In the third chapter, D.S. Priyarsono and M. Irfan Affandi show that local governments should encourage the development of clusters of industries to enhance regional economic development. The regional economy of Lampung, Sumatra, was taken as the object of this case study. An Input-Output Table analysis was conducted to identify the role of agro-industry in the economy. The results of several tests show that agglomerations exist among agro-industrial firms in the region. More importantly, by using an econometric model it can be shown that there are economies of agglomeration. The results of the simulation analysis imply that the government can improve regional economic development through promoting agglomeration economies by providing public infrastructures that encourage private investment, especially in the export-oriented sectors.

The fourth chapter in Part I is by Hapsari Kuspurwahati. In this chapter she argues that building low cost apartments (Rusuna) is a solution to housing problems in the city. Up to now, the development of Rusuna in Indonesia has been fully financed by the Central Government. Since 2007, the Government has been accelerating "The Development of 1,000 Towers Program", requiring community investment. Government intervention is required to offer policies and appropriate incentives to attract business people in the development of Rusuna. A scheme should be introduced to support the cooperation between Government and the Private sector (Public Private Partnership) in the development of Rusuna. Four proposed P3-schemes that have been chosen are: (1) Build, Operate and Transfer Contract, (2) Build, Transfer and Operate Contract, (3) Develop, Operate, and Transfer Contract, and (4) Joint Venture Agreement (JVA), usually in the form of a limited company.

The last chapter in Part I is an attempt to estimate the growth elasticity of poverty in Sumatra. The authors observe that poverty incidence tends to be concentrated in particular locations, suggesting the importance of neighbourhood influence. However, this spatial pattern has been ignored when estimating the growth elasticity of poverty of a regionally diverse country like Indonesia. In fact, no study has ever undertaken the spatial analysis of growth-poverty elasticity at a sub-national level in any developing

country. This study aims to fill this gap by incorporating spatial effects in the estimation model using sub-national data. The main objective is to test the existence of any spatial pattern of regional growth elasticity of poverty in the case of Sumatra. The estimation is conducted at the district level and includes 80 districts during 2000 to 2004. The analysis begins with standard OLS specifications in order to test for the presence of spatial structure in the error terms. The estimation then proceeds to simple spatial econometric models as the empirical results confirm the presence of spatial structure in the error components. The significance of the spatial pattern, both spatial dependence and spatial heterogeneity, is also confirmed.

The first chapter in Part II is by Muhammad Zilal Hamzah and R. Suryadi. Its objective is to analyze the correlation between world oil price fluctuations and Indonesia's economic condition. This chapter uses time series data sets available from the IEA, OPEC, BPS and Central Bank of Indonesia from 1997 until 2007. The result shows that the world oil price fluctuations correlate and significantly influence the Indonesian economic condition.

The second chapter in Part II is by Syamsurijal, A.K. He argues that the role of the mining sector in the South Sumatran economy is considered to be relatively minor, in terms of its contribution to the gross domestic regional product and economic growth, labor absorption, employment creation, linkages to other sectors and its impact on the regional economy, and its revenue contribution to the regional budget. This relatively minor role results from a lack of investment funds and supporting infrastructures. It is suggested that the government of South Sumatra would be wise to promote the mining sector by eliminating hindrances, namely by simplifying bureaucracy, eliminating business uncertainty, and providing security assurance, to encourage domestic and foreign investors.

The first chapter in Part III investigates the contribution of fossil fuel combustion to CO₂ emission. This chapter argues the need for Indonesia to adopt a two-pronged strategy in order to maintain low-carbon growth in the country: reduce

deforestation and bring fossil fuel onto a lower trajectory. Prompt action will make a big difference over time. With regard to fossil fuel combustion, it is crucial to bear in mind the fact that investments in the energy sector have long lifetimes, often more than 35 years. Present investments are locked in a carbon emission trajectory for a long time. This chapter then analyses CO₂ emissions from fossil fuel combustion to understand the main driver of the increase in the amount of emission and the challenges in reducing it.

The last chapter is by Deni Kusumawardani. She investigates the existence of an Environmental Kuznets Curve (EKC), an inverted U-shaped relationship between income and environmental quality, using cross-countries data of 128 countries. It is not similar to previous studies; environmental quality is measured by an index, namely The Environmental Performance Index (EPI). Statistical test suggests that the relationship between income and environmental quality follows a smooth N-shape, so that the EKC hypothesis is not confirmed. Further investigation is carried out among various different levels of income using the IPAT model framework to analyze the role of population and affluence as two major driving forces of environmental change with regard to environmental quality. The results show that population and affluence have significant effects on environmental quality in medium-income countries, but not in low-income countries. For high-income countries, environmental quality is strongly affected by affluence, but not by population.

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Bernadette Robiani
Budy P. Resosudarmo
Armida S. Alisjahbana
Aslamia Rosa