

# MAJOR RESEARCH PAPERS

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## ABSTRACTS

### **1. Export Processing Zones and Growth Triangle Development: The Case of the BIMP-EAGA, Southeast Asia**

#### **Thesis**

*Master of Regional Development*

*The University of Queensland, Australia, 2002*

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Co-author: Dr. David Wadley

Export processing zones (EPZs) and growth triangles have been two common Asian initiatives to increase wealth and regional competitiveness in the world economy. Since they are seldom analysed jointly, this paper investigates their mutuality in the development process. Taking the problematic case of the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA) triangle, we explore the role of EPZs in enhancing regional collaboration, competitiveness, and domestic linkages. Despite the triangle's weak economic complementarities, its processing zones are found capable of advancing development by furthering opportunities in regionalisation and localization of production. Latterly, trade and investment liberalization within ASEAN raises broad questions about the rationale of EPZs and growth triangles. Zone-triangle nexuses will require rethinking as, under different regulatory conditions, the zones compete more directly across ASEAN and also with global rivals.

### **2. Towards an Attractive Free Trade Zone Environment: Planning for Infrastructure Development in Zamboanga City, Philippines**

#### **Thesis**

*Master of Science in Human Settlements Development*

*Asian Institute of Technology, 1993*

Submitted to the City Planning and Development Office - Zamboanga City, 1994

The study, while assessing the viability of the Zamboanga Economic and Free Trade Zone (ZEFTZ) with the existing infrastructure, attempts to draft an Infrastructure Plan aimed towards making the city 'attractive' to the ZEFTZ users.

To determine the infrastructure requirements appropriate for the ZEFTZ, the strategic planning techniques were employed. Strengths, weaknesses, opportunities, and threats were deduced from results of the environmental scanning. These were further reduced to key planning issues by means of a Cross-Impact Analysis, and were utilized to build scenarios depicting the probable futures of the infrastructure.

Hence, three long-range alternative strategies for development were recommended. From the results of the Goals-Achievement Matrix Analysis, the Singapore-experience inspired, a city-independent FTZ infrastructure development in linear-and-ring conceptual pattern was found appropriate for ZEFTZ in view of the realities in Zamboanga City. The formulated Infrastructure Plan is will be carried out by the ZEFTZ Authority (ZEFTZA). The infrastructure will be owned, constructed, and/or operated by the city government, private sector or the ZEFTZA on a joint venture program. Financing schemes ranging from external funding to benefit and cost-recovery schemes were also promoted.

### **3. Corporate Diversification in Highly Unstable Developing Economies: The Case of the Philippines**

The paper examines the role of shocks in the diversification policy and performance of the Philippines' top six conglomerates (Ayala, JG Summit, FPHC, Metro Pacific, Benpres, and Aboitiz) over the period 1995-2001. Evidence shows that while there is an insignificant movement in the number of core segments, the flows of diversifying investments are volatile and are greatly influenced by shocks. Vertically integrated and complementary diversification, were the major strategic management responses to effectively cope up with the unstable economy.

The conglomerates successfully spared themselves from diversification discount. Findings show a rejection of the learning-by-doing hypothesis, as the firms engaged the services of experts, adopted prudent management, and diversified in profitable product lines and markets to sustain the increased sales. A negative relationship is therefore seen between vertical expansion and profitability. The firms focused more on improving profits than growth. Overall, there is a low probability of refocusing since diversification is still seen as an effective solution to deal with shocks. Results indicate inconsistency with the agency cause of overdiversification since the firms are inherently family-owned and widely-held. Continued diversification is implicitly motivated by the need to eliminate excess capacity.

### **4. A Research on the Sustainability of Export Processing Zones in Calabarzon, Philippines: Addressing the Nine Key Areas of Project Management**

A scope plan, risk plan, and project schedule, were prepared for a Research Proposal, 'Sustainability of Export Processing Zones in Calabarzon, Philippines'. The Scope Plan identified the boundaries of the project as defined by the objective statements and deliverables. The Risk Plan helped establish a more viable program for implementation and offer opportunities for making adjustments to the project scope. Developed from the conceptual timeframe set while scoping, the Project Schedule described in the detail the logical relationship of the items of work or activities with their estimated duration times and resources required to complete the project.

Collectively functioning as a Project Plan, the three already substantially cover the planning aspects of all key areas of project management (scope, risk, time, integration, cost, quality, human resource, communications, and procurement). Their planning outputs essentially complement each other. For instance, the Scope Plan provides the backdrop for identifying risks. Conversely, the Risk Plan offers opportunities for re-scoping prior to implementation. The Project Schedule acts as a working time-based repository of information and resolutions derived from scoping and risk treatment. Generally, the key areas are incorporated in the Project Plan either as inputs to analysis, as outputs for consequent analysis, or as subsequent implementing mechanisms.

## **5. Industry Dispersal Strategy for Regional Development: A Critical Evaluation of its Application in CALABARZON, Philippines**

The Master Plan prepared by JICA in 1991 for the development of CALABARZON was critically examined. Its intent of promoting a dichotomy in agro-based and high-industrialization strategies is found to be unattainable realizing the existing poor land use and conversion policies. The method of preparation did not make full use of indigenous knowledge. Its greatest failure is its neglect of organizing a catalyst or hub to monitor and benchmark regional performance, perhaps the only important element when considering collaborative strategy between new locators and existing support industries. Although intensive socio-economic analysis was made, the plan failed to address institutional capacity and determine sustained advantages against competitors such as Subic and Clark. Further in the selection of the best alternative, which is leap-frog development, essential criteria were not given appropriate rate of importance or priority considering existing conditions and development constraints in CALABARZON.

The Plan's spatial strategy of taking advantage of the polarization effects of Metro Manila is unsatisfactory, as it will only aggravate the problem of agricultural land use conversion and hamper the internal growth of potential urban centers along the fringes of CALABARZON. Finally, it is argued that with the current rate of development in the region, the Plan is actually in the position of playing catch-up, with proposed projects not keeping pace of current circumstances.

## **6. Regional Economic Development: A Critical Review of Key Theoretical Approaches**

In a chronological fashion, the paper outlines the theories of regional growth, namely, neoclassical growth theory, new growth theories, the role of cities and transportation sector, attraction models, and the emerging modern approaches to explaining regional growth. In a nutshell, theoretical approaches to regional growth simply evolved from the traditional state of natural equilibrium to concentration and divergence as a consequence of the advocacy of spatial context in economic development. This brought forth issues explaining inter-regional differences which triggered regions to struggle to become competitive in many ways both between regions and in the international economy to initiate propulsive growth rather than to suffer the consequences of Myrdal's backwash effects.

## **7. Property and Business Services Sector: An Assessment of its Roles in the Development of South East Queensland**

South East Queensland (SEQ) has been growing more rapidly than any other metropolitan region in Australia. The Property and Business Services Sector can be hypothesized as the major factor contributing to this regional orientation. The paper evaluates whether the shifts within SEQ have bearing on geographic pattern of the sector. Traditional shift-share analysis was employed using Australian Housing and Urban Research Institute's (AHURI) shift-share data from the website [www.ahuri.uq.edu.au](http://www.ahuri.uq.edu.au) covering the census period 1986-1996.

The general pattern of results is one where the national share, industry mix, and generally the total shift effects are significant only in Gold Coast and Brisbane. Job loss was occurring due to negative regional shift in Brisbane, Toowoomba, Redcliffe, Gatton, and Ipswich. Factors contributing to the increase in employment in the sector include population change and transportation, particularly with those cities in proximity to Brisbane, and with key regional centers, Maroochy and Gold Coast. Geographically, the shift occurred from inland towards the coastal shires.

## **8. Theories of Unemployment: The Case of the Philippines, 1980-2000**

One of the symptoms of a malfunctioning economy is unemployment. The study aims to analyze the Philippine unemployment situation over the last two decades, particularly if there exists a probable natural rate of unemployment and what its determinants are.

The country is typically characterized by a cyclical unemployment that is chiefly dictated both by the yearly entry of the new tertiary graduates into the labor force and the demands for labor during the Christmas season. Frictional unemployment is found to be due to as already mentioned, change of season, sectoral shift towards industrialization, firm failures as a result of financial and currency crises, and lack of opportunities which is directly related to the country's unstable growth. Wait unemployment is attributable to the minimum wage law, unions and collective bargaining, and efficiency wages and benefits. Finally, it is found to be difficult to determine the country's natural rate of unemployment due to political instability.

## **9. The Three Gorges Dam Project in China: A Critical Assessment of its Economic and Environmental Impacts**

The world's largest dam project, The Three Gorges Dam in China, is again subjected to another form of environmental impact assessment, a modified version of the Sorensen network, which considers primary, secondary and tertiary impacts along with their corresponding probability of occurrence, duration, distribution, magnitude, and importance.

Despite the potential comprehensive benefits of flood prevention, power generation, and navigation, the general pattern of the results however is that the most serious and long-term impacts are derived from the massive displacement of residents. In terms of network linkages, the impacts from the loss of agricultural lands are perceived to bring the worst environmental effects. To mitigate these impacts, it is recommended that the project's Protection Coordination Team should undergo continuous monitoring and consider conducting a full-blown social impact assessment specific to the effects of resettlement.

## **10. Social Impact Assessment: Examining its Application in Developed and Third World Countries**

Social Impact Assessment (SIA) as a planning and decision-making tool is critically examined in view of its application in developing countries and the Western world where the concept emanated. The discussion partly focused on the requirements and assumptions inherent in SIA methods, which hinder their implementation in Third World countries. Also, the paper assesses those pitfalls usually encountered by the originators of SIA.

In arguing its implementation in poor countries, it is suggested that the feasibility of SIA should not be constrained by its inherent assumptions such as its intrinsic worth in economic planning and its pluralistic approach. It should be reinforced by the advantages of initially identifying social costs and benefits before implementing a project and by learning from similar Western experiences.

Pitfalls in SIA implementation include conflicting aims, poor design, difficulty in defining affected parties, and the issue on value judgments, among others. SIA can be rightfully claimed as instrumental to economic development as long as it is appropriately integrated into the planning process and embodies continued monitoring and not as a 'snapshot' study.

## **11. Agricultural Land Use Conversion: An Examination of the Institutional Arrangements to Achieve Sustainability in Philippine Agriculture**

The agricultural sector plays a significant role in Philippine economy and society. However the rapid conversion of its prime lands into non-agricultural uses continues to threaten the country's land productivity and food security. Geared towards the formulation of strategies to promote sustainable agriculture in the Philippines, the paper critically examines such relevant institutional arrangements affecting agricultural lands as the agrarian reform legislation, agricultural land management practices, and land use planning.

The Comprehensive Agrarian Reform Program (CARP), was found to be poorly implemented due to inadequate provisions against conversion, unnecessary political intervention, unclear property rights, inappropriate non-land transfer schemes, and the devolution of land reclassification functions to local governments and housing agencies. A number of issues have rendered existing land conversion procedures ineffective. These include the Drilon Ruling, conflicting internal decisions, converted lands remaining idle, grease money, 'chop-chop' system, lack of delineation of protected agricultural lands, and conflicting aims between the housing and agricultural sectors. To achieve sustainability in agriculture, it is imperative to review the country's economic model which puts premium on faulty industrialization and blanket liberalization, to adopt a national land use framework plan indicating its preferred balanced outcome for economic development and environmental protection, and finally to adopt the ten institutional reforms to planning and management of agricultural lands recommended in the paper.

## **12. Urban Encroachment on Agricultural Lands: An Evaluation of the Existing Control Mechanisms Utilized in South East Queensland**

While it is a fact that population growth is tantamount to additional demands for food, it however further increases pressure on good quality agricultural lands on which food security depends, as these are also under constant demand for development. The paper examines how South East Queensland manages to control and conserve its diminishing agricultural lands. Despite the existence of strong legislative support to ecologically sustainable development, the paper argues that the region instead chooses to further increase economic development at the expense of its diminishing agricultural lands. Past and existing land use conversion process, zoning, regional directions, rural subdivision, and fiscal policies, are among those factors being scrutinized to support said argument.

For the region to achieve ecological sustainability, all of its economic development strategies should be oriented towards the goal of increasing capacity to conserve and improve the environment. Specifically, it is recommended that urban developments should be contained in their own growth limits, recognize high scenic amenity in landscape, encourage precinct planning and satellite settlements, promote intensive urban agriculture, strengthen state and local control on agricultural conservation, encourage amalgamation of multiple titles, tighten controls on concessional subdivisions, devise fair and economical buffer mechanisms between conflicting uses, and promote integrated planning originating from the State's macro desired outcomes rather than from local authorities.



### **13. Towards a Sustainable Housing Industry: The Application of a Regional Geographic Information System in Metro Manila and Urban Fringe, Philippines**

Since late 1980s the Calabarzon Industrial Region, due to its relatively cheaper land and proximity to Metro Manila, has become the alternative target of real estate developments. This however brought forth significant housing and land use problems. This research proposal aims to (1) identify all areas in the region available and suitable for housing through GIS and (2) model a dynamic sustainable development pattern considering the implications of housing vis-a-vis agricultural land use conversion.

The research is will be conducted by a small organization under a host developer. Data shall be derived primarily from NAMRIA, and leading government agencies of housing and land use concerns. Raw data shall be captured through digitizing and converted to GIS through ArcView. The relational database management system shall be employed where datasets are stored in topic-based modules. Modeling for sustainability shall take into account environmental constraints, viability factors, and conversion constraints and shall be done through appropriate programming and mathematical operations. The research is expected to produce a database for interested developers and a sustainability model for concerned government agencies. It will be conducted in 18 months with a total budget of P3.6 Million.

### **14. Pollution Control: A Critique on Current Market and Government Policy Instruments**

Four debatable approaches to the environmental pollution problem were critically examined, namely, regulations or standards, taxes, marketable permits, and bargaining. Specifically, the paper addresses two arguments: (1) whether as a means of pollution control, marketable permits are superior to taxes on pollution emission which in turn are better than standards or regulations, and (2) whether Ronald Coase's contention that clearly defined property rights is indeed the single most important factor in ensuring socially optimal level of pollution.

In the area of environmental effectiveness, it is argued that standards still dominate taxes followed by tradeable permits since they are more pragmatic and socially acceptable in the context of sustainable development as an emerging paradigm. In terms of economic efficiency, the emissions trading system is more superior, followed by taxation and regulations, since their markets always effectively equate private and social cost by internalizing pollution costs. With regards to operational viability, the traditional regulatory approach is argued to be the most viable over charges or permit system, with latter having carrying the greatest administrative burdens.

The Property Rights Regime is argued to be unsatisfactory considering present issues such weak property rights, common or open access resources, identification of polluters and victims, owners as polluters themselves, wealth effects, and longevity of pollution exposure.

## **15. Theory of Location: Concepts, Models, and Its Application to the Developing Economies and Free Trade Zones**

This paper was prepared with an understanding that location theory helps build better locational decision-making processes useful for firm and industrial establishment and infrastructure development in developing economies and free trade zones. Judicious locational decisions perhaps largely propel the growth of most industrialized countries at present. This paper presents the concepts, models, forms of locational orientation, factors influencing locations, the underlying conditions for pursuing such a decision-making endeavor, and their application and related problems faced by developing economies and free trade zones.

## **16. Urban Environment Crisis in the Third World: Emerging Issues and Policy Measures**

The CITY, by virtue of its uniqueness in the operation of its various functions - be it commercial, trade, residential, administrative, business or cultural - and the exceptional experiences it offers, can draw large numbers of people, when it achieves the "power of attraction". That is, the urban environment must be safe, healthy and inviting - an expression of the highest quality. Its air should be free of pollution; the sense of hearing should not be offended by unpleasant mechanical noise; the eye should not be insulted by disorder, dirt, or ugliness; the nose should not be offended by unpleasant smells. Human senses should rather be flattered and inspired by the impressions they receive from the man-made environment (Gruen, 1973).

The rapid and uncontrolled urbanization this 'attractive' city brings forth, however, generates a whole series of complex problems, not only the health issues directly associated with housing conditions, sanitation and pollution, but also the poorly understood and little studied effects of life in cities on moral and social attitudes and values and the morbidity associated with urban life generally.

This paper, in an attempt to seek efficient, equitable and Third World-based urban environmental policies, explores the many such critical problems which nowadays beset poor 'overurbanized' cities as traffic congestion, informal sector growth, urban slums, pollution, poverty, inadequate basic infrastructure and causes, symptomatic effects, and measures that have shaped effectively or uselessly aggravated developing and newly developed urban environments as well, and how the urban illnesses be resolved in more strategic approaches.

## **17. Risk Assessment: Concepts, Methodologies, and its Procedural Implementation for Assessing the Health Risks of Air Pollution in Metro Manila, Philippines**

Risk is the probability of danger or the hazard itself, with adverse consequences for man or for his environment. Thus, technically, it is a simple quantitative function of the probabilities and consequences (costs) of possible events, and how societies evaluate them. Risks arise in, or are transmitted through, the air, water, soil, or biological food chains, to man. The perception of risks can also be affected by many qualitative factors.



Risk assessment is an appraisal of both the kinds and degrees of threat posed by an environmental hazard. It includes recognition of a hazard, measurement of its threat, and understanding the social meaning of such measurements. Specifically, it is a balancing and trading-off process in which various combinations of risks are compared and evaluated against particular social or economic gains. Risk management, however, is a tool in opting for a "safe enough" course of ecodevelopment where it helps to minimize or reduce to acceptable levels undesirable effects, for those subject to risk, for those who create risks, and for those responsible for managing them, ensuring that risks taken will not undermine or negate the aims of development.

The steps in the assessment process are hazard identification, dose-response evaluation, exposure assessment, and risk characterization. In the paper, these techniques were simulated in a working framework to assess the health risks of air pollution caused by exhaust gas from automobiles in Metro Manila, Philippines.

## **18. The Challenges of Third World Water Supply: Issues and Prospects**

This paper was prepared with an understanding that there are hundreds of millions of poor people in Third World countries in need of clean accessible water. Outbreak of typhoid and cholera, famine, crop destruction, and therefore stagnant economy are all attributed to water scarcity. This paper, in an attempt to avoid these perils, explores the possibilities of rationing, self-help employment and community participation for the development of an efficient, labor-intensive and equitable Third World water supply system. It covers general issues and prospects from Sudan, India, Madagascar, Morocco and Western Samoa and how these are viewed and applied in Zamboanga City, Philippines.

## **19. A Study on the AIT Infrastructure System: Sewage, Water, Drainage, and Solid Waste**

Only solid waste material, sewage, water and drainage flows through the AIT campus are being studied. The study aims to give a broader view of the present situation of these systems highlighting the apparent problems and to focus on where and what measures can be taken. It attempts to give the prerequisite and feasibility to create a more environmentally sound campus, a "Green AIT". It is therefore planned as a base for future changes and improvements in order to meet such ends, more so, as an institute of advanced education AIT should pioneer in environmentally sound technology and be an example to follow.

Based from the observations, it was found out that AIT's systems on sewage, water supply, drainage and solid wastes are functional. But issues raised with regards to its efficiency needs further re-thinking and planning. The whole system as well as the budget allotted for the maintenance and repair, and the institute's policies and priorities however are needed to be considered before any planning as such is to be carried out.

Measures on the improvement of the facilities as recommended could be adopted but it should fit according to the result of the analysis of the availability of the budget and other resources. The 1991 budget for the operation and maintenance of the system shows that there was a total balance of Baht 3,067,057.00, which indicates that there is wide hope for the construction of new facilities so as to improve its efficiency.

Management improvement is also highly recommended in order to create a suitable, meaningful and conducive learning and working institution for the welfare of the AIT residents.

1992

## **20. Urban Transport Crisis in the Philippines: Causes, Impacts, and Policy Measures**

Modern urban areas indeed face an alarming menace in transportation. As their economic growth increases the demand for better transport and movement of people tend to decline because of the worsening traffic condition and the externality in pollution. This paper, in an attempt to reduce traffic congestion and curb environmental degradation, explores the different possibilities for the development of a safe, clean, efficient, equitable, reliable and comfortable urban transport system in the Philippines. It covers the existing conditions, symptoms and causes, and suggestive measures to alleviate the urban transport crises in Metro Manila and other large agglomerations as Metro Cebu, Metro Davao and Baguio.

## **21. Urbanization and Urban Planning System in the Philippines**

The paper presents vital country information including urbanization trends, urban definition as reflected in the hierarchy of cities, the Philippine urban planning structure and its procedures in plan preparation, and the roles played by key institutions.

The lessons learned were based from urban planning practices of four cities - Bacolod, Baguio, Cagayan de Oro, and Legazpi. It is observed that discovering life expectations (the "felt needs") of the city's inhabitants as bases of a city plan is the most significant aspect in a planning body. The inclusion of social scientists as active participants and utilization of resources of local educational institutions should be encouraged. Further, the key to effective planning lies on a technically trained staff. Finally, traditional methods of encouraging participation - representatives from existing organizations and civic associations - tend to limit participation to exclusive and elite groups and interests.

2004

## **22. Donarita Center: A Project Feasibility Study**

The study was prepared as a tool for the owners Donarita Realty Corp. and Donarita Commercial Center Corp., to market their 2.3-hectare commercial lot within Golden Ville Estates Subdivision in Malolos City, Bulacan, Philippines. A 4.5-hectare one-stop regional town center serving its immediate 8-kilometer radius of less than a million people, was found to be most feasible for the lot, due to: (1) sufficient infrastructure, (2) favorable environmental conditions, (3) strategic location, (4) continuous in-migration to Bulacan due to the Mt. Pinatubo eruption and spillover from Metro Manila, (5) the proposed Manila-Clark Rapid Railway System, and (6) increasing urbanization due to influx of commercial malls and suburban subdivisions in the area. The tenant mix is expected to provide both backward and forward linkages to the commercial establishments and manufacturing firms in region. The center will provide for office, commercial, institutional, and recreational spaces and is expected to generate P4.2 Billion gross revenues, 87.81% gross margin, 36.38% return on capital employed, 22.75% internal rate of return, over 19 years of operation.

1998

### **23. The Remington Place: A Project Feasibility Study**

The study was prepared to support the application of Capitol Industrial Construction Groups, Inc. for development loan guaranty from the Home Insurance Guaranty Corporation. The rationale of the project is to shift use of the existing property of the company at Km. 18 Ortigas Ave. Ext., Cainta, Rizal, Philippines from industrial to 1,092-unit mid-rise middle-income residential condominium complex. The paper described the locational, physical, and socio-economic advantages of the property and the immediate vicinity as well. The program of development was prepared to support the financial projections made. Technical and engineering analysis was presented in terms of the type of development, land and building construction, and the project scale. Market analysis is essential. Thus, it recommended market plan and target beneficiaries based on the demand for housing and the affordability analysis made. The paper ends with a financial analysis indicating the profitability of the project based on the pricing, financing, and costing schemes presented. Financial projections were made with the commands of the Microsoft excel software.

1997

### **24. Le Chateau Ville: A Site Characterization Report**

This paper, a major document requirement for the issuance of Conversion Order, describes the abovenamed project of Robinsons Homes, Inc., which is proposed to be located at its newly acquired property in Bgy. San Isidro, Batangas City, Philippines. The Conversion Order, which is being issued only by the Department of Agrarian Reform is a government clearance to allow conversion of the present pastureland use of the property to residential use. Discussed and presented were the significance of the development, the concept plan, scale of the project, and the implementation schedule. Also, in detail the environmental setting of the micro (the site and the vicinity) and macro (Batangas City) environments were discussed in terms of the existing land uses, facilities, industries, housing, topography, soil, climate, water resources, mineral resources, forestry, urbanizable land and development support facilities such as utilities, land transportation, airport, communication, recreation, tourism, and the socio-economic profile which includes real estate development, agriculture, livelihood, trade and commerce. The environmental impacts were considered and mitigation measures recommended. A Leopold Matrix supporting the Environmental Impact Assessment was prepared. Also, preliminary site development plan, house plan, feasibility study including pricing, costing and profit, and program of development were prepared to support the discussion.