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Sustainable Development Framework for Local Governance

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Sustainable Development Framework for Local Governance

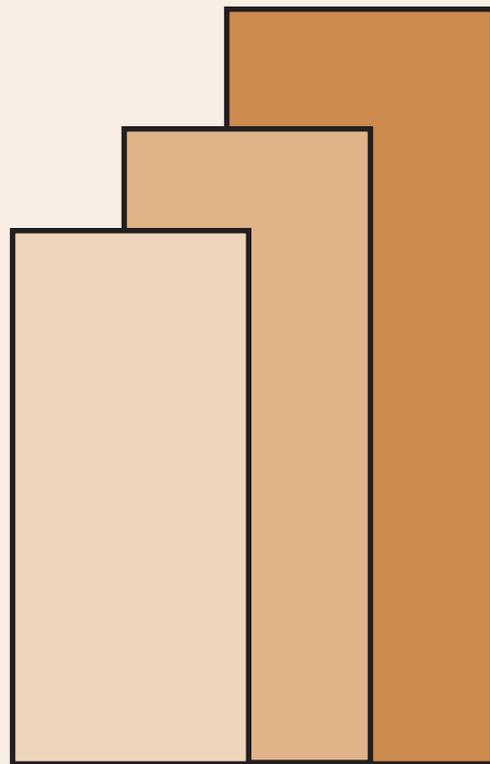
Michael R. Cabalfin and Josef T. Yap

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SUSTAINABLE DEVELOPMENT FRAMEWORK FOR LOCAL GOVERNANCE

Michael R. Cabalfin and Josef T. Yap¹

Abstract

Over the past sixty years, the concept of development has expanded from economic growth and investment, to poverty reduction, human development, sustainable development, and more recently to institutional development. There has also been a fresh look at industrial policy and the role of the nonfarm economy. These aspects of development are not only important in their own right but are very much interrelated. National development experience shows the importance of investment and infrastructure to growth; the significance of growth, infrastructure and human development to poverty reduction; the contribution of growth and human development to sustainable development; the effect of nonfarm incomes to growth, poverty reduction, and inequality; and the importance of institutions to growth.

Local development experience also reveals the interrelatedness of the different development aspects: the importance of investment, infrastructure and human capital to growth and poverty reduction; the role of health to human capital; the significance of human capital to poverty and inequality; the value of human development, institutions and good governance to sustainable development; the importance of human capital to enterprise development; and in turn of enterprise development to investment and therefore growth as well as to poverty reduction; the contribution of nonfarm incomes to growth and poverty reduction; and the importance of governance to poverty reduction and human development. To promote local development in its various aspects, local governments play crucial roles: supplementing education investments; providing infrastructure services through private and community involvement; providing for public health care especially for the poor; making more social services accessible to the poor; monitoring, regulating and properly taxing natural resource depletion and environmental damage and promoting sustainable local management systems; promoting industrial clustering and enterprise development; fostering the development of the nonfarm economy; managing development through improved planning, budgeting, and financing; and in all aspects understanding local needs.

Key words: Regional development, local governance, economic growth, human development, poverty, inequality, sustainable development, industrial clustering, enterprise development, nonfarm economy, institutional development.

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Executive Summary

A. Regional Development Experience

In recent years, the disparity in economic activity across regions has increased. The disparity of per capita income also increased. Growth in poorer regions fell with the rise in income while that for richer regions rose with income. Services dominated output in most regions while agriculture and industry each dominated only a couple of regions. The agricultural regions had among the fastest growth while the industrial regions grew the slowest. Per capita incomes depend on labor productivity. Productivity in turn depends on investment per worker. The distribution of government consumption mirrored that of investment making lagging regions unable to catch up.

Public infrastructure has also been concentrated in regions that are better off. National roads are concentrated in several regions and paved roads are focused on even fewer regions. The disparity in access to telephone is even more severe. Access to safe water, sanitation and electricity seems to be less uneven although access in ARMM is still way below those in other regions. Regional output is strongly correlated with the stock of national road, telephone density, and access to electricity; moderately correlated with the proportion of paved national road and access to sanitation; and only weak correlated with access to safe water. Poverty decreases with access to safe water, sanitation and electricity. On the other hand, literacy increases with access to electricity.

Labor productivity and therefore per capita income are positively related to human capital. Labor productivity in industry is positively related to tertiary participation and functional literacy while productivity in services is positively related to school participation at all levels as well as to functional literacy. However, agricultural labor productivity is negatively related to tertiary participation. Health indicators are also related to human capital. Life expectancy is positively related to simple literacy while maternal mortality decreases with the increase in functional literacy. Infant mortality, on the other hand, is associated with malnutrition.

The distribution of income depends on the distribution of human capital. Inequality decreases with greater elementary participation and functional literacy reinforcing the need for education investments. Poverty incidence is negatively related to per capita income and positively related to inequality. Land ownership also decreases poverty pointing to the need for land reform.

Sustained welfare improvement requires prudent management of natural resources and the environment. Poverty is not so much a result of less alienable land but the size of the population it supports. Unfortunately, forest and mineral depletion do not translate into corresponding local government revenues and spending reflecting that natural resource rents are poorly captured by local taxation. Moreover, regions with less innovative leaders are more prone to natural resource depletion as mineral depletion is positively related to reliance on the internal revenue allotment. Education investments figure significantly towards sustainability efforts as education spending addresses both the disparity in functional literacy and the low or negative net savings. However, for most regions, this is not sufficient to make for sustainable wealth creation.

Small and medium enterprise development affects development outcomes. The number of MSMEs is related variously to elementary participation, secondary participation, simple literacy and functional literacy. Employment in MSMEs is also related to human capital including tertiary participation. Per capita income increases with the number of MSMEs. However, MSMEs increase incomes only in as much as they allow investments. Poverty incidence decreases as employment in MSMEs increases.

Development outcomes are also related to nonfarm incomes. Regions with higher nonfarm incomes, particularly nonfarm wages and salaries have higher per capita incomes. On the other hand, regional poverty incidence decreases as nonfarm wages and salaries increase. However, rural poverty is not affected by rural nonfarm incomes. Aggregate income inequality is also not affected by nonfarm incomes. Nonfarm incomes can be increased through enterprise development. Per capita income increases with the number of MSMEs. However, this relationship disappears when investment per worker is considered. MSMEs increase incomes only in as much as they allow investments. Poverty incidence decreases as employment in MSMEs increases.

Institutional development and governance are critical for development. The different revenue sources all depend on per capita regional income. Economic spending per capita in turn depends on the IRA and nontax revenues while social spending per capita depends only on the IRA. Economic as well as social spending, however, does not affect per capita regional income. Poverty, on the other hand, depends on social spending per capita, but not on economic spending per capita. Functional literacy also depends on social spending. Meanwhile, maternal mortality is negatively related to economic spending per capita. Development outcomes depend on social by local governments and their ability to generate nontraditional revenues. LGUs should explore private sector participation.

B. Roles of Local Government

To enhance labor productivity and growth, local governments play a critical role in enhancing public education by through demand-side financing: mobilizing local resources in filling in the gaps in classrooms, teachers, and books for basic education; and providing targeted incentives for tertiary (including technical and vocational) education.

To promote infrastructure development, local governments should promote the participation of the private sector and community organizations in the provision of water. They should allow proper pricing of water to ensure efficient use, but also ensure access to the poor. With regard to sanitation, local governments should implement the integrated waste management system: segregation and collection at source, materials recovery facilities, recycling, and composting. Local governments can provide for local roads through user-charges. In relation, the national government is also providing financial and technical assistance in the development of roads in Mindanao and other poor areas. LGUs may facilitate access to electricity especially among the poor through subsidies.

Important directions in health include turning over personal health care provision to the private sector; focusing on improving quality and efficiency in public health care provision; analyzing local health needs and generating local funds for local health services. Local governments should also provide better health information and facilitate greater access to health services, and health insurance and targeted subsidies for the poor.

To reduce disparities and poverty, local governments should reduce informal payments for social services by prohibiting service workers from accepting such payments, and should promote transparency, accountability and participation in decision-making. Local governments should also ensure that the poor are adequately served by facilitating access to credit where access requires consumer outlay, regulating pricing, promoting cross-subsidies, allowing alternative supply systems, and providing targeted subsidies to the poor.

To promote sustainable development / natural resource and environmental management, local governments should regulate natural resource depletion and environmental damage by enforcing provincial taxation on quarrying activities and municipal fishery charges. Local governments at various levels should monitor these as well as mining and forestry activities in their areas to ensure that the proper taxes are collected and remitted. Local governments' share of the proceeds of resource / environmental taxes should be spent

in a transparent and accountable manner. A system of monitoring and taxing air and water pollution should also be developed. The overall system for monitoring natural resource depletion and environmental degradation should be developed to allow measurement of national wealth (adjusted net saving). Regional/local governments should also encourage environmental studies, undertake information/education campaigns, and promote sustainable local management systems.

The rural nonfarm economy can be developed through the development of small enterprises, agricultural marketing and agribusiness development, and regional development. Small enterprises can be developed by concentrating on a cluster of similar enterprises instead of individual businesses, zeroing-in on the important missing elements, supporting the growth of markets and access to these, and promoting the market for business development service delivery. Agricultural marketing and agribusiness development strategies include assisting small stakeholders to adapt to changing market conditions by addressing the disparity in power and information, concentrating on supply chains for particular goods; providing public infrastructure and promoting collective action to ensure competition; reducing public cost through private complementation; and providing technical and financial assistance.

Local governments can promote industrial clustering and Small and Medium Enterprise development by encouraging the establishment of technology centers that provide technology assistance to targeted entrepreneurs and by rewarding successful enterprises and discontinuing assistance to unsuccessful enterprises. Regional/provincial governments should also coordinate investments and support sub-contracting systems. They can provide investment subsidies in nontraditional activities. Government can also coordinate capital from Overseas Filipino Workers (OFWs) in support of SMEs.

To foster institutional development and good governance, capacities of local governments in planning and budgeting, local government financing, tax administration, and procurement and financial management should be developed. Local government planning and budgeting can be improved through measures that allow plans and budgets to be open for public examination, better revenue projection, and community participation in monitoring. Local government access to private credit and private sector participation, particularly in infrastructure development, can be enhanced through strategies such as build-operate-transfer (BOT) arrangements and development of a market for local government securities.

Finally, to develop the appropriate policies and programs, research, including the analysis of issues and stakeholders, is essential. To implement relevant policies and programs, local government capacities to develop plans and budgets, prioritize and evaluate projects, generate resources, and manage spending need to be developed.

I. Introduction

Development is a multifaceted concept. This is especially true for economic development. This paper presents a framework for integrating some of the various aspects of economic development and tracks the evolution of the concept. The experience of the Philippines is presented to give an empirical perspective on the issue. The framework is then applied to regional or sub-national level, with emphasis on specific policy measures in each area. This framework aims to help local leaders in crafting and implementing development plans. Specifically, the framework intends to help local leaders:

- Understand the various components of local development and the links among these components;
- Realize the need for relevant, timely, and accurate data and analysis;
- Identify their role and specify policies and interventions; and
- Analyze the impact of policies on local development.

The paper proceeds as follows: Section II presents the overall framework of economic development and analyzes the linkages among some of its more important aspects while Section III reviews the Philippines' experience in terms of economic growth and the effects of investment, labor growth, and productivity; poverty reduction and equity, human development, sustainable development, rural nonfarm economy, and institutional development. Section IV describes the state of development in the various aspects at the regional and provincial levels and analyzes the interaction among these aspects. Section V analyzes the rationale for public policy in various development aspects and identifies the important roles of local governments in each of these areas. Section VI presents the crosscutting issues of planning and budgeting and the important role of research. Section VII concludes the paper and highlights the need to develop the capacities of local governments in terms of planning, managing, and sustaining development programs.

II. Sustainable Development Framework

The concept of development has evolved over time. The core idea of economic development expanded from income, growth, and investment; to knowledge and technology, human development, sustainable development, and most recently; institutional development. Development thinking or the philosophy of development has also evolved in a parallel fashion.

One of the earlier motivations for reconsidering the concept of development was the response to the limitations of economic growth as the objective of development (Ranis 2004). Meanwhile, focus on basic needs was made in the 1970s, albeit briefly in part, because it lacked theoretical foundation. In the late 1970s, greater attention was given to income distribution, poverty, and the delivery of public goods. The concern on equity particularly proved to be longstanding with the debate centering on the relationship between inequality and growth. The relationship between growth and poverty has also received similar attention. The 1980s saw the emergence of the endogenous growth theory, which focused on technological progress as the engine of economic growth. Moreover, particular emphasis was given to the role of research and development in facilitating investment and in reducing production costs.

In the 1990s, human development emerged as the primary goal of development, making income a means rather than an end. The relationship between economic growth and human development has been particularly scrutinized. With the concern over market failures

and increasingly on government failure, increasing focus has been placed on the role of institutions, particularly in reducing transactions costs. In the recent decade, the role of micro-level decision-making and its role on imperfect markets have been given much importance (Ranis 2004).

The following sections elaborate on the evolution of development thought and highlight the various aspects of each perspective. A comprehensive development framework is then constructed based on these concepts, detailing the relationships among the components of the framework.

A. Evolution of development thinking

The idea of the good life has been the subject of economic literature as early as the 17th century. In fact, “Interest in development problems has, traditionally, provided one of the deepest motivations for the pursuit of economics in general” (Sen 1988). For some reason, standard economics veered away from welfare issues and focused on **economic growth** in the wake of World War II. As a result, the primary objective in the 1950s was to increase income per person and with an increasing population; this could only be achieved with an increase in a country’s total production (gross domestic product). The key to increasing output was believed to be the accumulation of physical capital, i.e., putting more factories and equipment to work (Meier 2000).

What has accounted for the growth of output and incomes? Mainstream economic literature maintains that the growth of income is primarily due to the increase in labor and physical capital; the primary inputs to production. The rate of economic growth is believed to be equal to the sum of the growth rates of labor and capital, weighted by their shares to total income. However, economic growth may actually be higher (or lower) than the combined growth due to labor and capital. The difference, called total factor productivity, captures the effect of other factors, primarily technological progress.²

Easterly (2001) chronicles how capital accumulation has dominated and continues to dominate development thinking as the primary source of economic growth. It started with the understanding that the enhancement of well-being relies on how the economy utilizes and converts its assets. In particular, the importance of physical capital has been a fundamental aspect of literature on economic growth, starting with the Harrod-Domar model. Domar (1946, as cited in Easterly, 2002) assumed that “production capacity was proportional to the stock of machinery” and although he later disavowed this assumption, it has continued to be applied as basis for prescribed investment rates in developing countries.

Lewis (1954, as cited in Easterly, 2002) underscored the predominance of capital given the surplus labor that characterized the environment, particularly “the Great Depression and the industrialization of the Soviet Union.” The shortfall of domestic savings relative to the prescribed investment rates became the basis for foreign aid. Rostow (1960, as cited in Easterly, 2002) reaffirmed Domar and Lewis but his evidence was weak, as was the subsequent evidence of Kuznets (1963, as cited in Easterly, 2002). With the pressure of communism in developing countries, foreign aid to the latter was increased by the US and later by other developed countries. The increasing indebtedness of poor countries had become a problem domestic saving was encouraged as a condition for “self-sustained” growth. Cross-country evidence, however, showed no significant relationship between aid and investment on one hand, and investment and growth on the other. Contrary to “capital fundamentalism”, Solow (1956, 1957, as cited in Easterly, 2002) noted that when labor is abundant and capital

² Felipe (2006) pointed out methodological problems in the estimation of total factor productivity and suggested abandoning the exercise in favor of analyzing on roles of competition to productivity, of institutions and demand.

scarce, firms tend to use more labor and less capital. Capital is only one of many factors of production, all of which respond to incentives. Therefore, the employment of various factors should be allowed to play out as they would (Easterly 2001).

In the mid-1950s, Robert Solow argued that investment could not be the basis of sustained growth; rather, it is technological progress that would allow sustained growth by making fixed amounts of resources produce more output. Income per person will increase only if labor productivity increases. Technology, in effect, increases labor and capital, preventing diminishing returns on both resources. As output per worker rises, income per person increases (Easterly 2001). The so-called East Asian tigers have attained incomes comparable with OECD countries because of technological development (World Bank 1998).

Economic analysis was largely concerned with factories and equipment and capital investments made by private business. However, the failure of markets in promoting investments called for government action. Moreover, because there was a lack of private initiative or interest in certain goods such as roads, water supply, and sanitation, governments have also been providing capital goods. **Public infrastructure**, comprising about half of total capital stock, and a significant proportion of economic output, has contributed significantly to welfare and economic development (Prud'homme 2004).

With each new machine contributing less to total output, the 1960s gave way to the idea that economic development lies, not so much on the amount of inputs, as on the quality of those inputs, called total factor productivity. The quality of labor, **human capital**, is believed to improve with the enhancement of knowledge, improvement in health, and development of skills. Unlike physical capital, human capital is believed to contribute more and more to total output, given that knowledge can be shared to society without additional costs. Therefore, developing countries could catch up with developed countries through the diffusion of knowledge (Meier 2000).

However, while economic growth has allowed average incomes to increase by up to 70 percent even in developing countries in the 1960s through the 1980s, a great number of people remained poor (World Bank 1990). Hence, it was recognized that economic development meant not only increasing the average income, but also enabling the poorer segments of the population to fulfill their basic needs, i.e., **poverty reduction**. This entailed providing the poor equal opportunities in accordance with their abilities, not in their circumstances, and not allowing them to suffer utter deprivation (World Bank 2006). An important means to attaining this objective is creating employment.

Until the 1990s, the world was preoccupied with the accumulation of capital and wealth. However, it was observed that in many developing countries, economic growth failed to reduce poverty. In developed countries, high incomes were no guarantee for the prevention of social ills. On the other hand, some poor countries showed remarkable achievements in human capabilities. For these reasons, it has been realized that economic growth was only a means for development to take place. The basic and ultimate objective of development is “to create an enabling environment for people to enjoy long, healthy and creative lives.” The concern has increasingly become focused on **human development**, “a process of enlarging people’s choices... to lead a long and healthy life, to be educated, and to enjoy a decent standard of living” (UNDP 1990).

The human development approach “differs from conventional approaches to economic growth, human capital formation, human resource development, human welfare or basic human needs” in that it considers growth to be essential but inadequate for human development. Unlike models of human capital formation and human resource development which treat human beings mainly as means for production, human development treats human beings as “the ultimate end and beneficiaries” of production (UNDP 1990).

To measure the overall level of human development, the UNDP developed the human development index (HDI), a composite of three indicators, namely, life expectancy, literacy/education, and per capita income. The development of the composite index is based on the assumption that “people do not isolate the different aspects of their lives” but “have an overall sense of well-being” (UNDP 1990).

In the 1980s, there were many development successes attributed to economic growth including reductions in infant mortality, increases in life expectancy and literacy, and school participation. However, the economic growth that made these human development outcomes possible also resulted in certain environmental failures, such as desertification of vast agricultural lands, destruction of forests and water bodies due to acid precipitation, and global warming due to the combustion of fossil fuels. These environmental concerns led to the establishment of the World Commission on Environment and Development (WCED) in 1983. The Commission found that many “development trends leave increasing numbers of people poor and vulnerable, while at the same time degrading the environment.” This led to an expansion in the concept of development into sustainable development (WCED 1987).

“**Sustainable development** is about enhancing human well-being through time.” Well-being includes “having the ability and opportunity to shape one’s life... having a sense of self-worth... enjoying physical security and basic political liberties... and appreciating the natural environment” (World Bank 2003).

The WCED (also known as the Brundtland Commission) defines sustainability as “progress that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Although this definition “does not define the concept of needs or its implications,” most other definitions include the “ethic of intergenerational equity,” stressing the present generation’s moral responsibility to guarantee that following generations benefit from a quality of life no less than that experienced by the present generation.

One approach defines sustainability as consumption not falling over time. Consumption rises only if wealth, measured by adjusted net saving, rises. Adjusted net saving (ANS) is equal to net national savings plus education expenditure minus energy depletion, mineral depletion, net forest depletion, carbon dioxide damage, and particulate emission damage (World Bank 2003).

The quality of physical and human resources is also believed to be dependent on cultural values, social norms, and institutions, collectively called **social capital** (Collier 1998 in Meier 2000). Social capital can increase total factor productivity by reducing information and transaction costs and enhancing physical and human capital productivity. Starting in the 1980s, there was an increasing attention on “new market failures” including imperfect information and markets and the existence of transaction costs. The focus has been on the development of institutions that would allow markets to work efficiently. This puts emphasis on the allocation and coordination of investment. Economic performance is believed to depend on rules, norms, and their enforcement. Institutional change, however, is not limited to improving market efficiency, but includes redistribution.

North (1993) defines institutions as “the humanly devised constraints that structure human interaction. They are made up of formal constraints (e.g., rules, laws, constitutions), informal constraints (e.g., norms of behavior, conventions, self-imposed codes of conduct), and their enforcement characteristics. Together they define the incentive structure of societies and specifically economies.”

Economic growth depends on economic institutions as these determine the incentives for “investments in physical and human capital and technology, and the organization of production.” Economic institutions also determine the future distribution of resources (both physical and human capital). The choice of economic institutions depends on political power.

Groups wielding more political power determine the economic institutions that prevail. Political power is derived from political institutions, from the capacity for collective action, and economic resources. In effect, political institutions and asset distribution determine economic growth through economic institutions. Political institutions tend to be self-reinforcing. However, collective action may result in a change in political institutions (Acemoglu, Johnson and Robinson 2004).

Traditionally, growth has been attributed to capital accumulation and technological change. However, Rodrik, Subramanian and Trebbi (2002) explain that these factors are but proximate causes. Geography, integration (international trade), and institutions are the “deeper” determinants of economic growth. They find that the quality of institutions is the most significant explanation for economic growth. Moreover, institutional quality positively affects integration. Integration does not directly affect incomes and geography only has a weak effect. Nevertheless, both integration and geography affect institutional quality, which in turn affect incomes. They conclude that significant improvements in incomes come from enhancing institutions; however, one has to distinguish between institutions and policies.

The significance of institutions has given importance to the role of governance—the management of institutions—and development in general. The World Bank (1991) identifies four key dimensions of governance: (i) capacity and efficiency; (ii) accountability; (iii) predictability; and (iv) information. Accountability in simple terms means “holding public officials responsible for their actions.” It includes policy-consistent implementation, efficient resource allocation and utilization, and financial accountability or conformity with accounting and audit rules. Accountability may be “through competition and enhancing opportunities for participation.” Predictability, on the other hand, entails clear rules and regulations and their equal application. Fundamentally, rules must be known in advance, enforced, and with mechanisms to ensure application. Also, conflicts should be settled with an independent judicial body or through arbitration. Meanwhile, there should be a process of changing rules that are no longer relevant. Lastly, information refers to “availability and access to information from public and private sources, and transparency of decision-making processes.”

Building on the approach of the World Bank, the Asian Development Bank (1995) identified four basic elements of good governance: (i) accountability; (ii) participation; (iii) predictability; and (iv) transparency.

Kaufman, Kraay and Zoido-Lobaton (1999) define governance as “the traditions and institutions by which authority in a country is exercised. This includes (1) the process by which governments are selected, monitored and replaced, (2) the capacity of the government to effectively formulate and implement sound policies, and (3) respect of citizens and the state for the institutions that govern economic and social interactions among them.” Kaufman, Kraay and Zoido-Lobaton (1999) cluster the various aspects of the first component into “Voice and Accountability and Political Instability and Violence,” the second into “Government Effectiveness and Regulatory Burden”, and the third into “Rule of Law and Graft.”

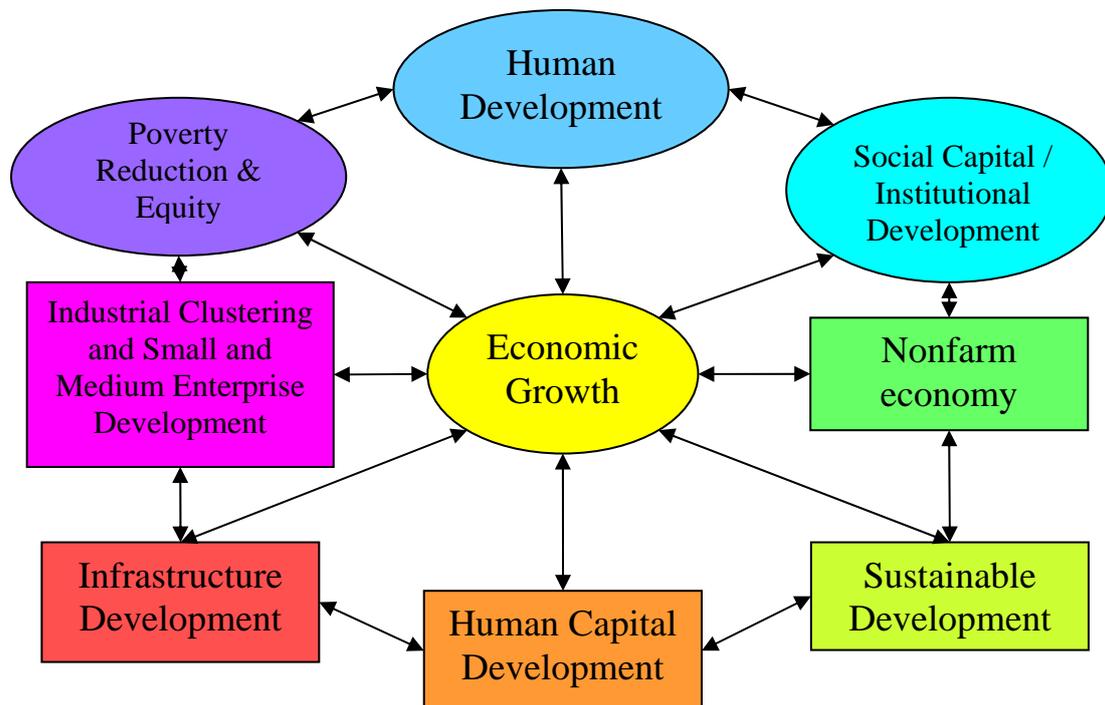
The various concepts of development can be applied to the rural **nonfarm economy (RNFE)**, which includes all economic activities in rural areas except agriculture, livestock, fishing, and hunting (Lanjouw and Feder 2001). This sector has received increasing attention over time. It has been suggested that nonfarm income is the major contributor to the overall increase in income in rural areas (Otsuka and Estudillo 2007). Another reason for the importance of nonfarm incomes is the fact that poverty incidence is higher in rural areas. The rural nonfarm economy (RNFE) has been argued to be a potentially important contributor to poverty reduction. The nonfarm economy is also important in that it affects the distribution of

income. It has been suggested that the rural non-farm economy often becomes polarized, with sharply unequal distribution of income (Haggblade, Hazell and Reardon, 2005).

B. Relationships among components

Despite the differences in the focus of development at various periods, all the different aspects are equally important and are interrelated. These relationships make up the Sustainable Development Framework (Figure 1). The components in ellipses refer to development outcomes while those in rectangles refer to inputs. Economic growth, poverty reduction, human development, sustainable development, and institutional development are interrelated. Economic growth allows the incomes of the poor to rise, lifting them from poverty. It also provides a means of improving human capabilities through education and improved health care. By improving endowments, human development also allows people to engage in productive activities and earn incomes, contributing to growth and poverty reduction. It also allows people to rely more on their capabilities than on natural resources, preventing environmental degradation and promoting sustainable provision of needs across generations. Institutions also affect economic growth, poverty reduction, and human development. Incentive mechanisms can encourage the emergence of markets and enhance economic growth. The interrelations among the different aspects are further discussed below.

Figure 1: Sustainable development and governance framework



1. Economic growth and human development

Economic growth is an important macroeconomic factor for human development (UNDP 1990). As national income increases, so does public spending on human development, which in turn enhances the well-being of the poor. Government spending in health and education improves life expectancy and reduces child mortality. However, growth itself has no effect on life expectancy if not through increased government spending and poverty reduction (UNDP 1996).

Growth enhances human development through government spending in terms of the sizes of total government spending, public spending on social services, and social spending on “priority areas” relative to GNP (Ranis, Stewart and Ramirez 2000). Growth also improves human development through household spending. Human development depends on the size, content and distribution of household spending. Human development expenditures are likely to be low where many have low incomes and many are poor. Expenditures on human development, on the other hand, are likely to be high when family finances are managed by women. The effect of growth on human development, however, is “not automatic;” it is dependent on the structure of the economy, the distribution of resources, policy, and social capital.

Human development also affects economic growth as “a healthier and better educated population... is capable of being economically more productive” (UNDP 1996). Labor productivity has been found to improve with increased calorie intake. Cross-country evidence shows that improvements in life expectancy enhance economic growth. Improving the education of workers has also been found to increase national income.

Human development propels economic growth as better health and education enhance the capabilities of the population and improve labor productivity (Ranis, Stewart and Ramirez 2000).

Specifically, (i) health, primary and secondary education and nutrition raise the productivity of workers, rural and urban; (ii) secondary education, including vocational, facilitates the acquisition of skills and managerial capacity; (iii) tertiary education supports the development of basic science, the appropriate selection of technology imports and the domestic adaptation and development of technologies; (iv) secondary and tertiary education also represent critical elements in the development of key institutions, of government, the law, the financial system, among others, all essential to economic growth.

However, there is also “no automatic connection” between human development and economic growth. Other important factors include “savings and investment rates, technology choice and the overall policy setting.” Distribution of assets is also important for economic growth.

Results of the study show that economic growth indeed improves human development status. Public spending on social services also enhances human development but mostly through the improvement of women’s education. Surprisingly, “a more equal distribution does not seem to advance human development.”

Human development in terms of life expectancy and adult literacy also proved to enhance economic growth. Unlike in the growth-to-human development chain, income equality figured significantly in the human development-to-growth chain. Moreover, higher investments enhance the effect of human development on growth.

2. *Knowledge and human development*

Knowledge improves health as illustrated by the decline in infant mortality over the past several decades. Although income represents a major factor in this decline, knowledge accounts for a significant portion. For instance, the invention and continuing innovation in medicines and vaccines have helped stop the spread of infectious diseases. Education among girls and women is found to improve the health of children. Information technology has facilitated the propagation of medical information and knowledge on health.

The importance of knowledge to family welfare can further be illustrated by the reduction of infant mortality with knowledge on oral rehydration therapy and reduction in cardiovascular diseases due to better cooking technology. Education of the household has also been found to reduce the probability of the family being poor. However, knowledge does not inevitably reach people who need it. Proper institutional channels are necessary in acquiring and adopting knowledge (World Bank 1998).

3. *Human development and poverty*

Poverty is both a cause and effect of ill health (Claeson et al. 2002). Among the reasons households are poor are ill health, malnourishment, and a large household size. Poor health of the household head reduces household income and the financial capability of the household. Moreover, spending on health care can reduce spending on food and drive households into poverty. Poor people cannot afford sufficient food, safe water, proper sanitation, and health services necessary for good health. This is exacerbated by inaccessible health facilities, inadequate health supplies, and lack of skills among health workers. Moreover, the poor have inadequate knowledge on preventive health care and on proper health-seeking behavior. Poor communities also tend to have weak institutions and norms that may be detrimental to health.

4. *Sustainable development and growth*

The ability of society to provide for the welfare of its members hinges on the amount and quality of its various resources as well as its management of these resources. Natural resources improve welfare directly, through the enjoyment of nature/environment; and indirectly, as inputs to production and in the absorption of pollution. The complementarities of natural resources with human, physical, and social assets improve the ability of people to be what they envision themselves to be and to do things they like. Various assets may be substituted for each other to a certain extent. However, physical assets may not be continuously substituted for natural assets and environmental neglect is bound to decrease the productivity of physical capital. Therefore, economic growth may not be sustained unless environmental assets are given sufficient consideration (World Bank 2003).

5. *Rural nonfarm economy (RNFE)*

Apart from the development of the overall economy, it is also important to look at the performance of specific sectors or parts of the economy. One such “sector” is the non-farm economy. The development of the rural non-farm economy also relates to other aspects of development. For instance, with regard to infrastructure, it has been noted that the decrease in

transportation costs increased farm and nonfarm incomes in the Philippines between 1975 and 1978. Low incomes may lead to low electricity demand and more costly provision (Lanjouw and Feder 2001). Apart from nonfarm investments, agricultural investments are deemed necessary to increase productivity that allow labor to be released to and investments to be made in nonfarm activities (Haggblade, Hazell and Reardon 2005).

The relationship between the nonfarm economy and economic development is such that high productivity nonfarm activities increase employment and wages. On the other hand, the importance of nonfarm incomes to poverty is that low productivity nonfarm activities serve as safety nets as they allow smoothing of consumption. Employment in both low-productivity and high-productivity nonfarm activities also reduces poverty levels (Lanjouw and Feder 2005).

The equity effect of nonfarm incomes is rather mixed. It is equity-enhancing in some but it exacerbates inequality in others due to its bipolar nature. The rich are engaged in high-productivity activities requiring physical, financial, and human capital, while the poor are engaged in low-productivity activities. Educational attainment affects the type of nonfarm activities and the level of incomes (Lanjouw and Feder 2005).

6. *Environment and poverty*

Poverty, broadly defined to include non-income dimensions of health, education, inequality, and vulnerability, affects well-being in terms of opportunity, security, and empowerment (Bojö et al. 2002). Poverty is in turn affected by access to and quality of the environment and natural resources. For instance, health is affected by exposure to carriers of diseases, biological agents, chemicals, and hazards. Unsafe water and poor sanitation lead to gastrointestinal diseases.

Economic opportunity is also affected by environmental quality. The degradation of natural resources may reduce productive capacity and adversely affects the poor, especially women, as they rely more on natural resources for their livelihood. These livelihoods may also expose women to health risks during pregnancy.

Access to natural resources is governed by property rights. Lack of ownership to land, for instance, discourages productivity enhancing investments. Moreover, unequal access to property rights can perpetuate poverty as it relegates the poor to marginal areas. Lack of property rights can in turn result in environmental degradation. For example, because of the lack of appropriate incentives, vulnerable areas are exploited to the point of soil erosion.

Poor people are also particularly vulnerable and less capable to cope with environmental shocks, such as natural disasters. In the Philippines, the poverty impact of the El Niño phenomenon is said to be more substantial than that of the Asian financial crisis. The poor are also more vulnerable to floods, drought, and other natural calamities. Apart from short-term deprivation, environmental shocks can also harm the long-term prospects of poor households as they are forced to sell their only asset to cope with disasters (Bojö et al. 2002).

With empowerment, the use of natural resources can lift the poor from poverty. Participation in decision-making enables the poor to have livelihoods, enjoy access to resources, and manage these in a sustainable manner.

7. *Poverty reduction and equity*

Economic growth is crucial to poverty reduction as it raises the incomes of the poor and decreases non-income poverty. However, the extent to which growth reduces poverty depends on income distribution and how this changes through time. Moreover, growth and

poverty reduction depend on governance. The World Bank (2000) reports that the “Absence of the rule of law, lack of protection against violence, extortion and intimidation, and lack of civility and predictability in interactions with public officials... (prevent the poor) from taking advantage of new economic opportunities or engaging in activities outside their immediate zone of security.”

Improvements in human capabilities, coupled with improvements in health, education, and incomes, are key to poverty reduction. Poverty includes lack of access to assets such as land, infrastructure, and social networks. Access to these assets in turn, depends on institutions that establish property rights.

The World Bank (2000) identifies three key areas for action in reducing poverty: promoting opportunity, facilitating empowerment, and enhancing security. Promoting opportunity includes enhancing human capabilities and access to assets. Empowerment, on the other hand, involves the democratic process, accountability mechanisms, and the rule of law. It is part of a broader governance framework which entails developing “administrative and regulatory capacity and reducing corruption.” Meanwhile, enhancing security includes developing the assets of the poor to make them better able to deal with risks. It also includes developing institutions that help them cope with risks, such as health and unemployment insurance, pensions and social funds, microcredit, workfare programs, and transfers.

The expansion of economic opportunities and political participation goes with sustainable development. Market failure prevents potentially productive agents from taking advantage of opportunities accessible to the rich. To correct this market failure, redistribution is essential.

Economies that provide more equitable access to opportunities are more efficient. On the contrary, inequitable political entitlements and influence generate exclusive structures that hinder development. Larger income inequalities are also linked to lower overall perceptions of welfare and greater difficulty in reducing poverty. On the other hand, if growth is accompanied by greater equality, the reduction in poverty is greater (World Bank 2006).

8. *Institutional development*

Institutions are the rules, organizations, and social norms that facilitate coordination of human action. They include trust, and more generally, social capital, rules and laws, and systems of enforcing these. Social capital and institutions differ as follows: exchange in villages can be based on personal networks; in cities, it is based but on formal institutions. They also reinforce each other in that the enforcement of rules creates more social trust (World Bank 2003). A more effective financial system boosts investor confidence while an incorruptible electoral system enhances popular support and political stability. On the other hand, trust among neighbors has made institutions such as microcredit schemes successful.

Institutions support markets in three ways. First, they provide a venue for the flow of market information; second, they establish and maintain property rights and agreements; and third, certain institutions also enhance competition. However, others can hinder competition, for instance, through over-regulation (World Bank 2001).

Institutions also enhance economic growth and poverty reduction. Institutions that facilitate the operation of markets enhance economic growth, provide market access, and allow people to use their assets efficiently, thereby improving welfare. The development of institutions is linked to growth and long-run development. For instance, legal institutions that perform well determine further development of institutions and their effect on economic growth. Although developing countries have legal institutions, native populations largely have no access to or comprehension of these, reducing the effect on economic growth.

In building institutions, it must be noted that the compatibility of incentives with economic objectives is what makes institutions effective. In this regard, the World Bank (2001) proposes four approaches to institution building: “complement what exists, innovate to identify institutions that work, connect communities through information flows and trade, and promote competition.”

Interest is growing on the “role of social capital... in the accumulation, preservation, and productivity of other assets.” For instance, social capital can enhance the management of natural resources, improve human capital build-up, and enhance physical capital productivity. The complementation among assets is said to improve overall productivity (World Bank 2003).

Despite the wealth of knowledge on the concept of development that has been generated so far, there is much room for further study and learning from experience. Ranis (2004) presents several points as to the future of development thinking and policy. We highlight those that are relevant to our framework. One is the need to further study the relationship between growth and human development. The advantages and disadvantages of decentralization and its linkage with democracy also require further study as fiscal decentralization is likely to increase social spending and small-scale infrastructure. With regard to natural resources, resource-rich countries manifest a fluctuating policy environment where active policymaking in good times has resulted in the “Dutch Disease.”³ Policymaking responds to “initial conditions” and rents associated with foreign capital inflows. The impact of natural resource rents can be mitigated with more transparent policymaking through prudent fiscal and monetary action. Foreign capital inflows, on the other hand, should be managed with policy reforms developed by recipients and not directed by donors.

Meanwhile, active policy intervention is required in institutional development. However, sector- or firm-specific interventions should be reduced or crafted prudently owing to the experience of failure in many state-supported industries. Also important is the “extent of isolation or cohabitation between industry and a meritocratic public service.” Government should play a different, not necessarily more limited, but more effective role (Ranis 2004). As Rodrik (2004) puts it, government should be autonomous from private interest but engaged with the private sector in addressing information and coordination externalities.

Specific policies necessary for the Philippines, particularly to local governments and communities, are identified toward the end of this paper based on the review and analysis of national and local development experience in the succeeding sections.

³ Dutch disease is an economic concept that tries to explain the apparent relationship between the exploitation of natural resources and a decline in the manufacturing sector combined with moral fallout. The theory is that an increase in revenues from natural resources will deindustrialise a nation’s economy by raising the exchange rate, which makes the manufacturing sector less competitive and public services entangled with business interests (Wikipedia, 2008).

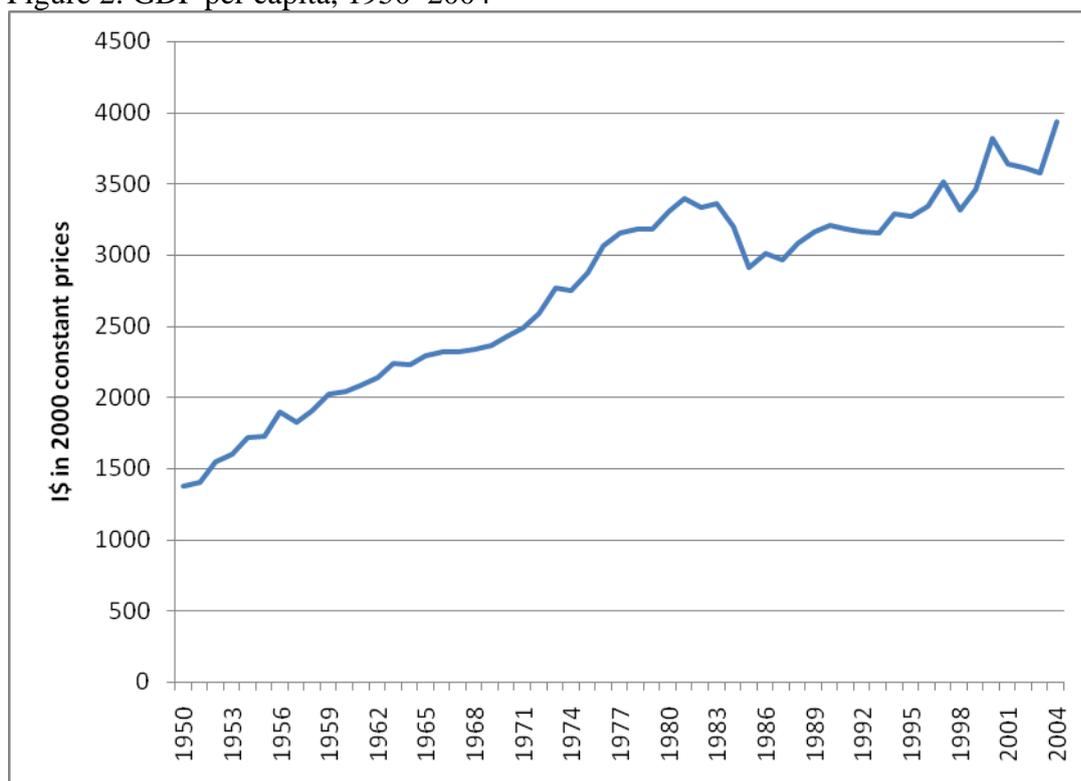
III. Philippine Development Experience

The development experience of the Philippines is analyzed in this section and insights are derived by juxtaposing the experience with the evolution of development economics. We begin with an analysis of economic growth and its sources. The latter include investment, labor, and productivity. We then turn to the nonfarm economy, poverty reduction and equity, human development, sustainable development, and social capital and institutional development.

A. Economic growth

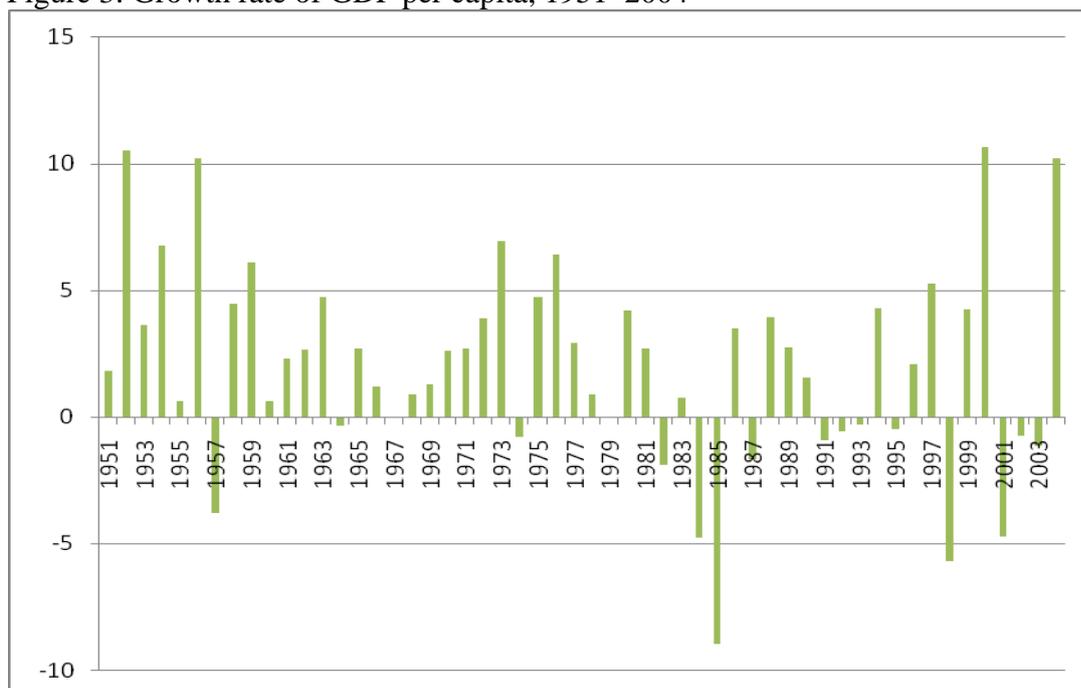
The performance of the Philippines in terms of gross domestic product (GDP) per capita in international purchasing power parity dollars (I\$) and growth of GDP per capita (chain series) are shown in Figure 2 and Figure 3, respectively. In 1950, the country's per capita GDP was I\$1377 (PPP = P1.27). Between 1950 and 2004, per capita GDP grew at an annual average of 2 percent. From the 1950s to 1970s, declines in output per person were uncommon, with growth averaging 3 percent per year. Since the 1980s, however, declines in the standard of living were as frequent as increases and average annual growth declined to only about 1 percent. In 2004, per capita GDP was I\$ 3,939 (PPP = P12.99).

Figure 2: GDP per capita, 1950–2004



Source of data: Heston, Summers and Aten (2006)

Figure 3: Growth rate of GDP per capita, 1951–2004



Source of data: Heston, Summers and Aten (2006)

Table 1 compares the country’s per capita GDP and growth rate with its Asian neighbors, the United States (US), and United Kingdom (UK). In the 1950s, the Philippines’ per capita GDP was higher than most of its neighbors’. The economy enjoyed a higher growth than even the UK and US, next only to China, in the list of select countries. However, in the 1960s, the economy slowed down, being overtaken by many countries except China and Indonesia. The economy picked up somewhat in the 1970s, but not as much as neighboring Malaysia, Indonesia, Thailand, and China. It stagnated in the 1980s while its neighbors, most notably China and Thailand, continued to enjoy faster growth. As a result, it has been overtaken by Thailand in terms of per capita GDP. As it remained stagnant in the 1990s, its neighbors continued to progress. By 2000–2004, the Philippine economy was surpassed by those of most of its neighbors except India, Vietnam, and Cambodia.

Table 1: Growth and per capita incomes for select countries (1950–2004)

	Growth rate of real GDP per capita					GDP per capita (I\$)			
	1950s	1960s	1970s	1980s	1990s	2000-2004	1950s	1980s	2000-2004
United States	1.50	3.20	2.37	2.06	2.20	1.55	2352	16593	36453
United Kingdom	2.29	2.45	2.30	2.34	1.87	2.38	1665	11730	26953
Malaysia	0.90	3.57	6.79	3.36	5.28	2.86	354	3853	12104
Philippines	4.47	1.59	3.02	0.04	0.94	2.83	348	2079	3923
Thailand	-1.12	5.08	5.10	5.18	4.17	3.33	193	2473	6960
India	1.41	2.99	1.12	3.65	3.53	3.63	150	1069	2892
China	4.82	0.55	4.63	7.61	9.49	7.64	74	829	4866
Indonesia		1.14	5.87	3.16	2.65	2.51		1595	4046
Vietnam					4.49	4.82		1013	2414
Cambodia			-8.18	-2.16	2.10	5.04		290	570

Source of basic data: Heston, Summers and Aten (2006)

Note: I\$ = International (purchasing power parity) dollars⁴

Comparing living standards across countries between 1960 and 2000, Alba (2007) found that the Philippines is among the underperforming countries whose living standard relative to the US in 2000 (13 percent) was lower than it was in 1960 (17.4 percent). Being at the border of the lowest 30 percent and highest 70 percent of countries⁵, the Philippines can either perform well in the future or fall into deeper poverty, depending on its ability to put its act together.

According to the World Bank (2005), per capita income grew by only 1 percent over the period 1961–2003, with real GDP growing at 3.8 percent and the labor force at 2.8 percent over the period. The country's per capita income growth is much lower than the average for neighboring countries (4.4 percent) and even lower than for all developing countries (1.4 percent).

Balisacan and Pernia (2002) noted that for much of the 1980s and 1990s, the country's economic performance can be described as poor. The short period of recovery in 1986–1989 was followed by decline and stagnation in 1990–1993, primarily as a result of the crisis in the energy sector. In 1995–1997, however, the country regained its growth momentum, as this period is characterized by “political stability, economic deregulation, and institutional reforms”. However, the momentum fizzled out as a result of the Asian financial crisis that erupted in July 1997.

The World Bank (2005) observed that saving and investment rates in the Philippines have not risen since the 1960s suggesting that low investment rates largely account for the poor economic performance. The growth in physical capital was marginal even with the reforms that were implemented since 1986. Private investments did rise beginning in the early 1990s but fell as a result of the 1997 financial crisis. Even public investment declined after the crisis and averaged only 3 percent of GDP in 1999–2003.

To see the importance of investment to the country's economic growth, we regress the Philippines' growth rate on the investment rate from 1950 to 2004. The results show no relationship between growth and investment (t stat = -0.15). More recently, the country's rising growth has been associated with declining investment. Over the period 2002–2006, economic growth averaged 5.3 percent. On the other hand, investment as a share of GDP has decreased to less than 15 percent. This puzzle is due to three factors: first, the government could not boost investment due to a fiscal constraint; second, the capital-intensive industries did not increase investments due to low expected returns, which was in turn due to low public investment and costly inputs from sectors characterized by oligopolistic markets; and third, the high growth sectors did not need to expand their capital to raise their profits. The rapid growth was due more to consumption driven by remittances from migrant labor and production in noncapital intensive manufacturing and services (Bocchi 2008).

However, the change in gross domestic investment rate affects growth rate. Figure 4 shows how the growth of real GDP has responded to changes in the growth rate of domestic investment. In particular, positive growth rates correspond to increases in the rate of domestic investment, whereas declines in real GDP growth are associated with decreasing investment rate. A simple linear regression reveals that a one-percentage-point increase in the investment rate increases growth rate by 0.13 percentage point (t stat = 2.95).

⁴ “PPP is the national currency value of GDP divided by the real value of GDP in international dollars.” An international dollar is equivalent to an average of P1.1, P4.2, and P12.2 in the 1950s, 1980s, and 2000–2004, respectively (Heston, Summers and Aten 2006).

⁵ Jones (1997 and 2002 cited in Alba 2007) surmised that the 70 percent of countries whose GDP per worker is above 15 percent that of the US will continue to enjoy high incomes in the long run, while the remaining 30 percent with per capita GDP lower than 15 percent are likely to suffer persistently low incomes.

Figure 4: Economic growth and investment growth, 1989–2006



Source of data: ADB Key Indicators, 2007.

Despite its strategic location, the adequacy of entrepreneurship, vast natural resource endowment, and a liberal investment climate, the Philippines has not been able to generate the required investment required for sustainable growth. This is largely due to persistent negative perceptions about the business environment. Based on the Gallup Survey, among the primary concerns of investors are corruption, political instability, and poor infrastructure (World Bank 2005).

Mapa and Balisacan (2004) noted that in 1975, the Philippines’ GDP per capita was twice that of Thailand. In 2000, the Philippines’ GDP per capita was only over half that of Thailand. This implies that during the 25-year period, the Philippines’ per capita GDP grew by only a factor of 2.6 times compared to that of Thailand’s 8 times. Apart from the country’s lower growth in total output—averaging only 4.1 percent annually compared to Thailand’s 8.8 percent—the Philippines had a higher population growth rate of 2.36 percent per year against Thailand’s 1.58 percent. Moreover, in 1980, poverty incidence in the country was similar to that of Thailand. In 2000, however, poverty incidence in the Philippines was twice that of Thailand.

Mapa and Balisacan (2004) note that population, particularly its effect on economic growth, is a controversial issue. In the last decade, the issue turned from population growth to the population age structure, owing to different research findings. In contrast to the studies in the 1970s which found a weak—if any at all—effect of population growth on economic growth, research in the 1980s showed that population growth adversely affects income per capita. The focus therefore shifted to demographic transition i.e., the reduction in fertility and mortality rates. This transition generally proceeds in three phases: first, a reduction in infant mortality with fertility still high, making for a large number of young dependents; second, after about two decades, this population enters the labor force and boosts economic growth providing for what is called the “demographic dividend;” third, as this population enters old

age, they may or may not affect economic growth. In 2000, the Philippines was in the first phase, whereas Thailand was in the second phase, and Japan in the third phase. While the share of the working-age population of East Asia accounted for 57 percent and 65 percent in 1965 and 1990 respectively, in the Philippines, the share was only 55 percent in 1990 (Bloom et al. 1999 cited in Mapa and Balisacan 2004).

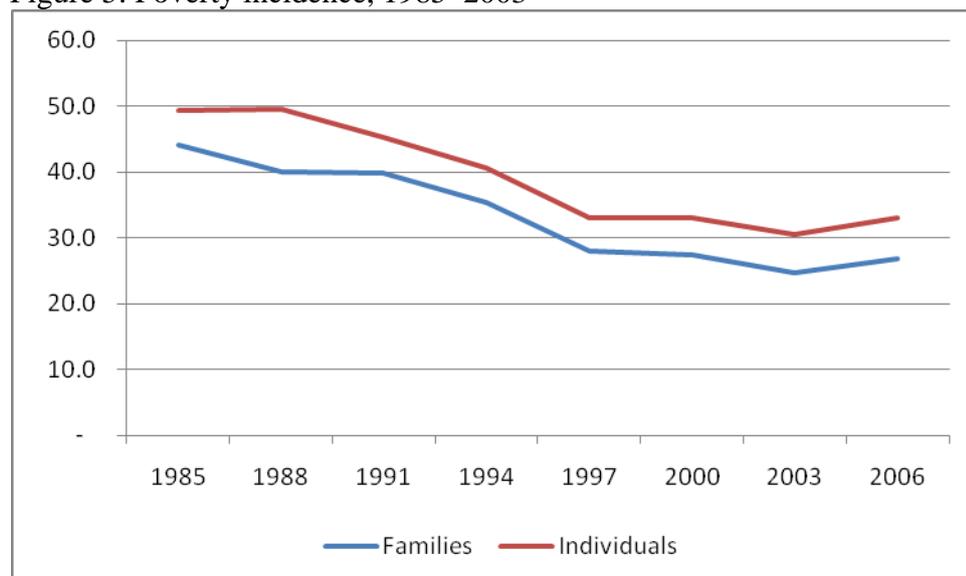
Apart from affecting growth, the demographic transition also affects poverty through three channels. One is the growth channel, through a change in average income or consumption. Another is the distribution channel where high (low) fertility changes income distribution at the expense (in favor) of the poor. The third is the conversion channel, through the ability of the household to turn income into improved well-being (Mapa and Balisacan 2004).

Comparing the country's GDP and population growth rates with those of Indonesia, Thailand, and South Korea, Mapa and Balisacan (2004) argue that the country's relative poor performance lies in its low growth rate in GDP per capita and high population growth rate. Compared to these countries, the Philippines has had the lowest demographic dividend. Had the Philippines followed the population growth trends of these countries, its economic growth rate would have been different.

B. Poverty and Inequality

The poverty trend in the country for the period 1985–2006 is shown in Figure 5. Poverty incidence among families decreased remarkably from 44.2 percent in 1985 to 28.1 percent in 1997. However, due to the financial crisis and the El Niño phenomenon in 1997–1998, poverty reduction stalled with poverty incidence among families decreasing by less than 1 percentage point between 1997 and 2000. Poverty reduction gained momentum between 2000 and 2003, with incidence among families decreasing by almost 3 percentage points. However, between 2000 and 2003, poverty incidence increased by over 2 percentage points. The trend in poverty incidence among individuals resembles that for households. Poverty incidence among individuals decreased from 49 percent in 1985 to 30 percent in 2003, by an average of 1.2 percentage points per year. However, the latest poverty statistics shows that the incidence of poverty among the population has increased to 32.9 percent in 2006. This is equivalent to 27.6 million poor people, up from 23.8 million in 2003. The poor are those who earned less than the poverty threshold of P15,057 in 2006. In fact, the average poor had 28.8 percent less income than the threshold. Although this shortfall (known as the income gap) has not risen much from its 2000 level (28.7 percent), the gap relative to the entire population (poverty gap) has actually risen from 7.0 to 7.7 percent. Moreover, the deficiency has risen among the poorest of the poor with poverty severity increasing from 2.8 to 3.1.

Figure 5: Poverty incidence, 1985–2003



Source of data: Technical Working Group (TWG) on Poverty Statistics, NSCB

What factors are important for poverty reduction? Dollar and Kraay (2000) argued that if the incomes of the poor rise in the same proportion as overall income, economic growth is the key to poverty reduction. Their evidence suggests that the elasticity of the incomes of the poor relative to overall income is unity, meaning as average income increases by 1 percent, the incomes of the poor also increase by 1 percent. Similarly, the World Bank (2000) explains that income growth generally reduces poverty and improves education and health outcomes. Much of the variation in poverty reduction across countries is explained by economic growth. The extent to which growth reduces poverty, however, depends on the distribution of additional income. Institutions and policies that promote growth do not necessarily promote greater equality. However, certain outcomes associated with growth are also associated with greater equality. These are “changes in the distribution of education, changes in the returns to education, labor market choices, and demographic changes.” Among the factors for these are policies like public spending on education. Growth translates to faster poverty reduction when income distribution is more equal.

Balisacan (1997) agrees that economic growth is a significant factor in poverty reduction. In the Philippines, rapid poverty reduction has been observed during the period of economic boom in 1985–1988 while modest improvement in poverty reduction was observed during the economic decline in 1991–1994. The distribution of income has also been suggested as an important factor in poverty reduction. It has been found, however, that economic growth, more than income distribution, is the main factor for the reduction of poverty. In fact, without growth, poverty rates would have increased, whereas without a change in income distribution, poverty levels would still have decreased.

Decomposing the change in poverty over the period 1985–2000 into the growth and distribution components, Reyes (2002) similarly found that the growth component dominates the effect on poverty reduction. However, the distribution component offsets some of the contribution of growth on poverty reduction. The growth component for that period was –16.5, meaning that growth could have led to a 16.5 percentage point reduction in poverty. However, with the distribution component at 4.7 percentage points, poverty decreased by only 9.4 percentage points. On the other hand, poverty increased during the 1997–2000 period because of negative economic growth. An improvement in income distribution during this period somewhat reduced poverty but was not sufficient to offset the growth effect.

Based on these results, Reyes points to the need for sustained growth in reducing poverty and for pro-poor programs. Another implication of the findings is the need for serious efforts in reducing inequality.

Moreover, Balisacan (1997) found that agricultural growth, as well as the growth of rural non-farm economies, is particularly effective in reducing poverty. In fact, agriculture is argued to have driven poverty reduction from the 1980s to early 1990s, with agricultural workers' consumption increasing proportionately more. Consequently, Balisacan suggests that agricultural and rural development are key to a more rapid poverty reduction.

Balisacan and Pernia (2002) also noted that poverty responds to growth, although to a lesser extent. They found that as growth increases by 1 percent, poverty incidence decreases by 1 percent. They argue however that growth is not sufficient to explain poverty. They suggest that "the quality or type—not just speed—of growth also matters for poverty reduction." They contend that other determinants of poverty reduction include initial condition variables and time-varying policy variables. For instance, they find that education, together with infrastructure, enhances the well-being of the poor. An increase in the relative price of agricultural products also improves the poor's welfare. They also suggest that land distribution affects poverty, citing evidence of the agrarian reform program's positive impact on the poor. Moreover, investment in land-improvements was found to have benefited the poor such that irrigation improved the incomes of the poor. Local political dynasties were also found to be detrimental to the welfare of the poor. On the other hand, local leaders' affiliation with the national leadership improves poverty reduction suggesting that funding is easier.

As earlier mentioned, poverty is also related to equity. Poverty depends on access to opportunity and equity includes avoidance of absolute deprivation (World Bank 2006). For instance, poverty is associated with equity in access to basic infrastructure such as safe drinking water, sanitary toilet, and electricity; the poor generally have less access to these. In 2004, while over 86 percent of the non-poor have access to safe drinking water, only 65 percent of the poor have. More than 93 percent of the non-poor have access to sanitary toilet, while less than 70 percent of the poor have. The greatest disparity is in the access to electricity. More than 91 percent of non-poor households have access to electricity whereas less than 53 percent of poor households have access (APIS, NSO).

Reyes (2002) shows that income distribution over the period 1985–2000 is relatively unchanged, with the share of the richest 20 percent remaining at over 50 percent and that of the poorest 20 percent remaining at less than 5 percent. The richest 10 percent still has over 20 times more income than the poorest 10 percent. However, the Gini coefficient has increased from 0.47 to 0.51, pointing to increased disparity.

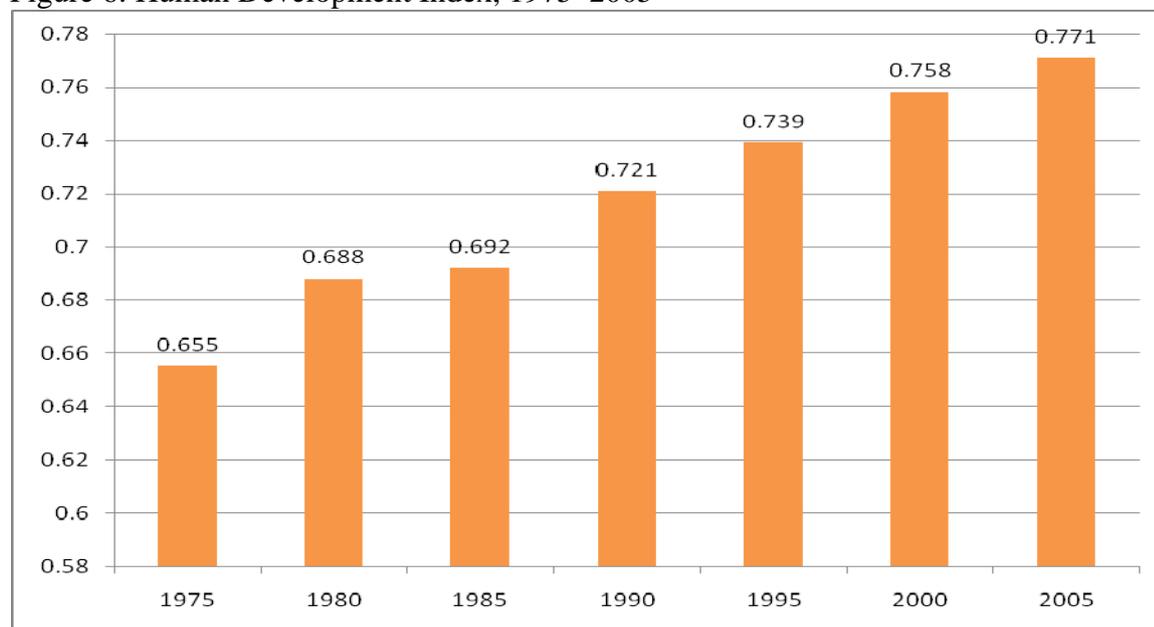
Moreover, some point to large differences in incomes across regions, with perceived bias towards Luzon and against Visayas and Mindanao. These differences are traced to the disparity in access to infrastructure and social services. Disparity in human development outcomes has also been observed. Balisacan (1997) prescribes different strategies depending on the relative importance of income disparity. If inequity contributes to the poverty issue, this disparity should figure at the core of poverty reduction efforts. This calls for investment in infrastructure. On the other hand, if inequity in income and human development is itself the core problem, improving the poor's access to basic social services, physical infrastructure, and know-how is the key.

Income inequality within regions has decreased slightly from 2000 to 2003. Inequality is highest in Zamboanga, followed by SOCCSARGEN, and Northern Mindanao. Central and Eastern Visayas and Bicol are also among the regions with high inequality. Inequality is lowest in Central Luzon and ARMM.

C. Human development

There is a consistent improvement in human development as shown by the increase in Human Development Index (HDI) from 0.655 in 1975 to 0.771 in 2005 (Figure 6). Data from the United Nations Development Program (UNDP) show that as of 2005, the Philippines ranks 90th in terms of human development across 177 countries.

Figure 6: Human Development Index, 1975–2005



Source of data: UNDP

Life expectancy has increased from 58.1 in 1970–1975 to 70.3 in 2000–2005. On the other hand, literacy rates have decreased. Adult literacy decreased from 93.6 in 1985–1995 to 92.6 in 1995–2005. Meanwhile, youth literacy decreased from 96.6 in 1985–1995 to 95.1 in 1995–2005.⁶

As of school year (SY) 2002–2003, 77 percent of 5-year olds were enrolled in preschool/daycare centers. As of SY 2003–2004, net participation rate in elementary was 90.05 percent. At the high school level, net participation rate was 58.03 percent. Although access to elementary education is not a problem, the quality of that education seems problematic. Elementary graduates were found to have poor competencies in math, science, and English. About 80 percent of students scored less than 50 percent in diagnostic exams. Provinces with education projects under the Official Development Assistance (ODA), however, show improved student performance. With regard to the low participation rate at the secondary level, subsidies and tuition fee supplements were provided starting 2002. However, due to budget constraints, these were reduced in SY 2003–2004 and SY 2004–2005 (NEDA 2004).

There are huge gaps in terms of educational inputs. Even assuming a class size of 50 students and two shifts a day, there remains a shortage of almost 18,000 classrooms, which would take over P7 billion to provide. There is an even greater shortage of teachers (over 20,000) which would take P3.4 billion to provide. Moreover, it would take some P4 billion more to provide the additional desks/seats and textbooks needed, making the total resource gap amount to over P14.6 billion (NEDA 2004).

⁶ Source of data: <http://hdrstats.undp.org>

The Medium Term Philippine Development Plan (MTPDP) presents the government's targets in education for 2010. The government aims to have all 5-year olds enrolled in preschool/daycare centers by 2010. Net enrolment ratio in elementary is targeted at 93.01 percent while target for the secondary level is 83.73 percent.

D. Sustainable development

Sustainability may be defined as consumption not falling over time. Consumption rises only if wealth, measured by adjusted net saving (ANS), rises. ANS is computed as follows:

$$ANS = (GDS - CAP) + (EDEX) - (ENER + MNRL + FOR + CO_2 + PAR)$$

where GDS is gross domestic savings, CAP is fixed capital consumption (NDS is net national savings = GDS - CAP), EDUC is education expenditure, ENER is energy depletion, MNRL is mineral depletion, FOR is net forest depletion, CO₂ is carbon dioxide damage, and PAR is particulate emissions damage (World Bank 2003). The equation shows that GDS and education spending increase adjusted net savings while capital consumption, resource depletion, and environmental damage decrease adjusted net savings. Table 2 shows adjusted net savings by income and region and for the Philippines.

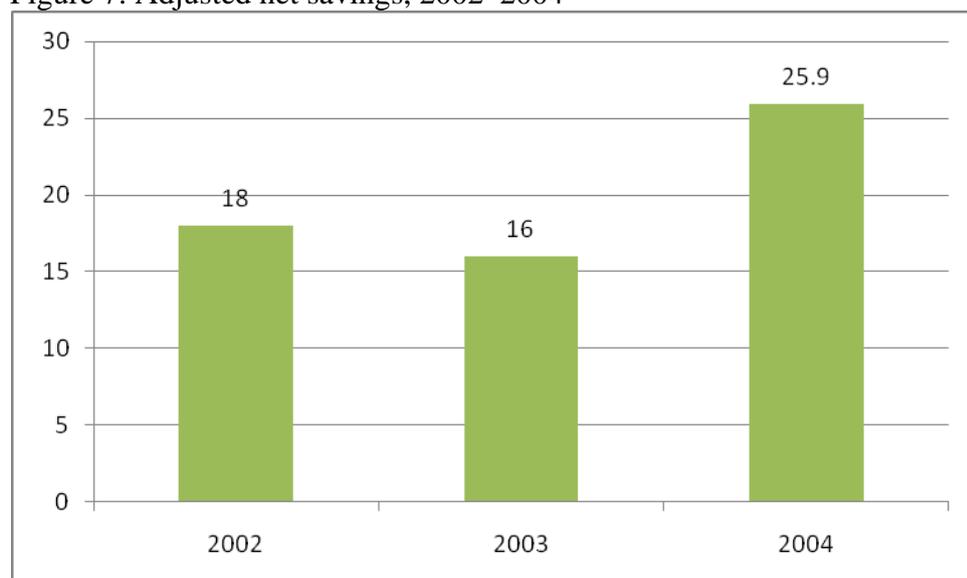
Table 2: Adjusted net savings, 2004 (percentage of GNI)

	Net savings	Education Spending	Energy Depletion	Mineral Depletion	Net forest depletion	Carbon dioxide damage	Particulate emission damage	Adjusted net savings
World	8.1	4.4	2.8	0.1	0	0.4	0.5	8.7
Low income	13.5	3.4	6.7	0.4	0.7	1.1	0.8	7.3
Middle income	17.2	3.6	8.4	0.5	0	1	0.9	9.8
Lower middle income	21.3	2.9	6.5	0.5	0	1.1	1	15.1
Upper middle income	11.6	4.5	11.2	0.6	0	0.9	0.7	2.6
Low & middle income	16.6	3.5	8.2	0.5	0.1	1	0.9	9.4
East Asia & Pacific	28.6	2.3	4.1	0.4	0	1.2	1.2	23.9
Philippines	24.8	2.8	0.3	0.4	0.2	0.6	0.3	25.9
Europe & Central Asia	12.7	4.1	12	0.3	0	1.4	0.7	2.3
Latin America & Carib.	10.6	4.4	7.2	1.1	0	0.5	0.6	5.6
Middle East & N. Africa	18.8	4.5	27.3	0.1	0.1	1.2	0.9	-6.2
South Asia	14.4	3.6	2.7	0.3	0.7	1.2	0.8	12.4
Sub-Saharan Africa	6.2	3.9	9.8	0.4	0.6	0.7	0.5	-2
High income	6.2	4.6	1.4	0	0	0.3	0.4	8.7
Europe EMU	6.6	4.6	0.1	0	0	0.2	0.3	10.6

Source: World Bank 2003

Figure 7 shows the ANS for the Philippines from 2002 to 2004. In 2002, the ANS was 18 percent of gross national income. This is higher than the net national savings of 16.5 percent as education spending (2.9%) is higher than resource depletion and environmental damage (totaling 1.4%). In 2003, ANS fell to 16 percent. This is due to the fall in net national savings and education spending and to the increase in resource depletion and environmental damage. On the other hand, ANS rose to 25.9 percent in 2004. Although the share of education spending did not change and resource depletion and environmental damage increased, these were offset by the large increase in net national saving.

Figure 7: Adjusted net savings, 2002–2004



Source of data: World Development Reports 2006, 2005, 2004; World Bank

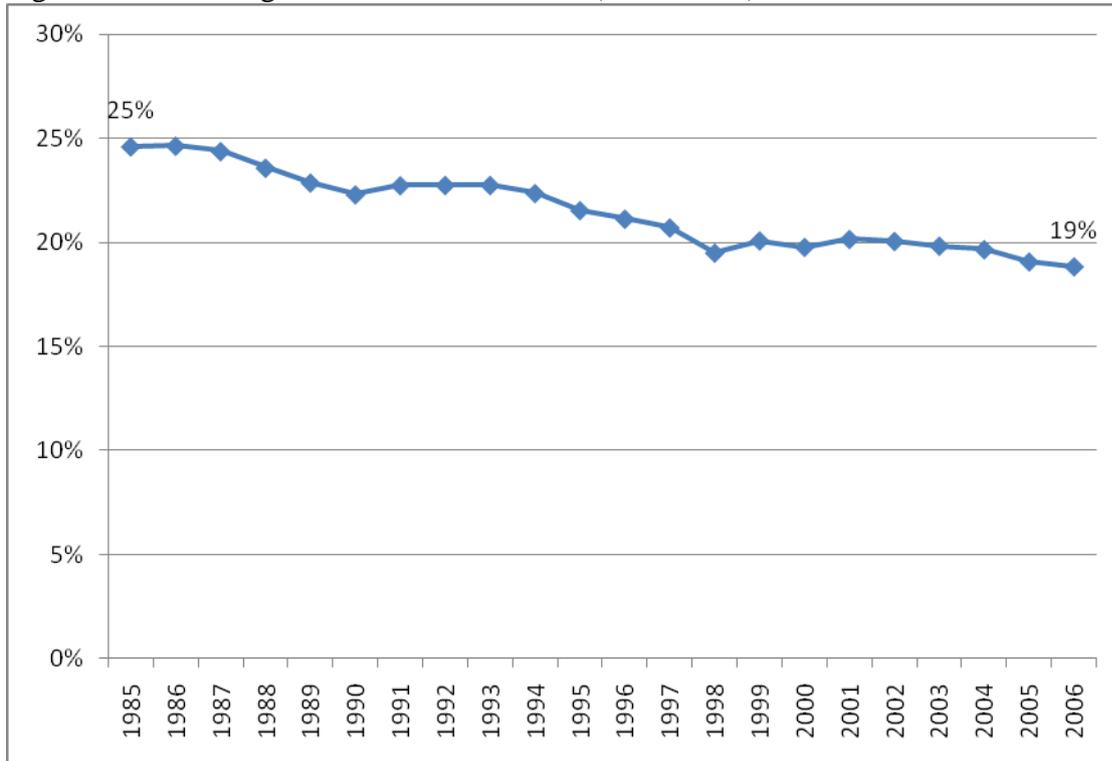
A country is said to be on a sustainable path if the growth of its wealth (ANS ratio to GDP) exceeds the growth of its population. For the Philippines, ANS was 18 percent in 2002, 16 percent in 2003, and 26 percent in 2004; well above the population growth rate (which averaged 2.2 between 1990 and 2003). This suggests a sustainable path.

Despite the improvement in adjusted net savings, we should note that resource depletion and environmental degradation are measured in relation to national income. This implies that the larger the national income, the smaller resource depletion and environmental degradation appear to be, which is exactly the case with the data just cited. The size of environmental destruction and attention to it can therefore be reduced or overshadowed by the growth of national income. This suggests the need to determine the true extent of resource depletion and environmental degradation, independent of national income. A straightforward approach would be to measure resource depletion relative to the size of the resource base.

E. Nonfarm economy

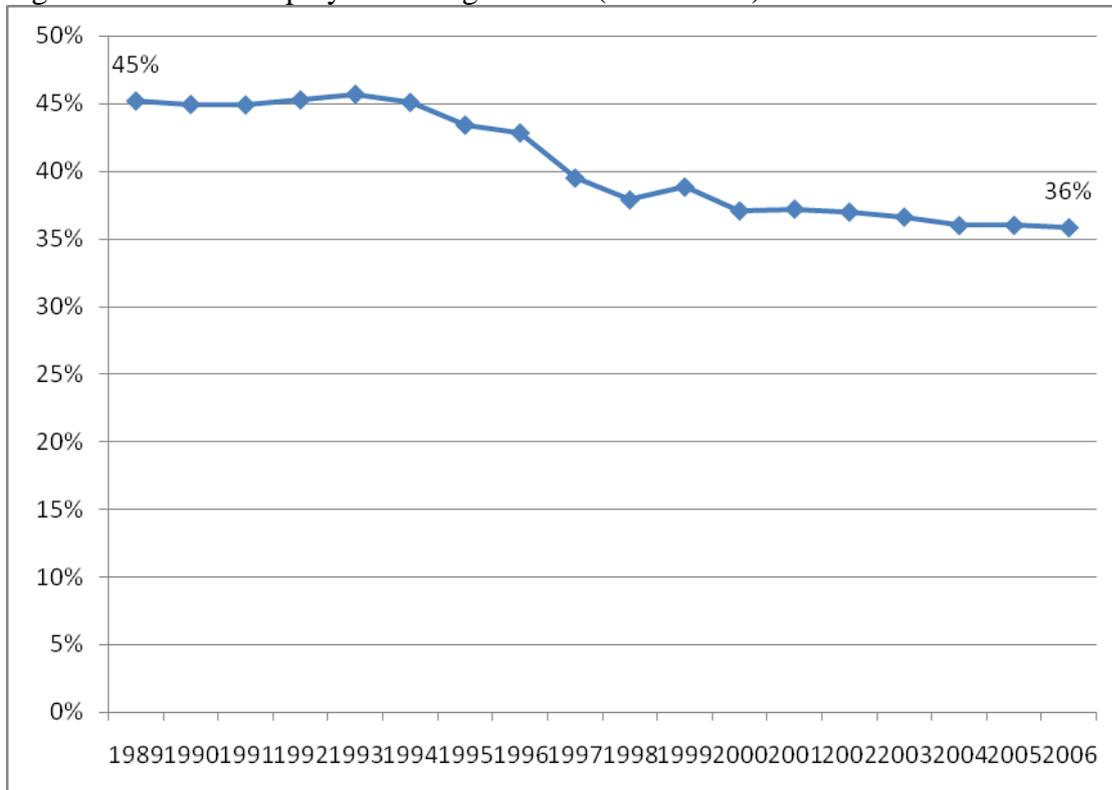
National income accounts show that the share of agriculture in value-added has decreased from 25 percent in 1985 to 19 percent in 2006 (Figure 8). The share of employment in agriculture has also decreased from 45 percent in 1990 to 36 percent in 2006 (Figure 9). The disproportionate share of agriculture in employment over time difference is evidence of the lower productivity in agriculture compared with the non-agriculture sector. This implies that agriculture is not sufficient for economic development and that it requires exploration of alternative drivers of development.

Figure 8: Share of agriculture in value-added (1985–2006)



Source of data: NEDA

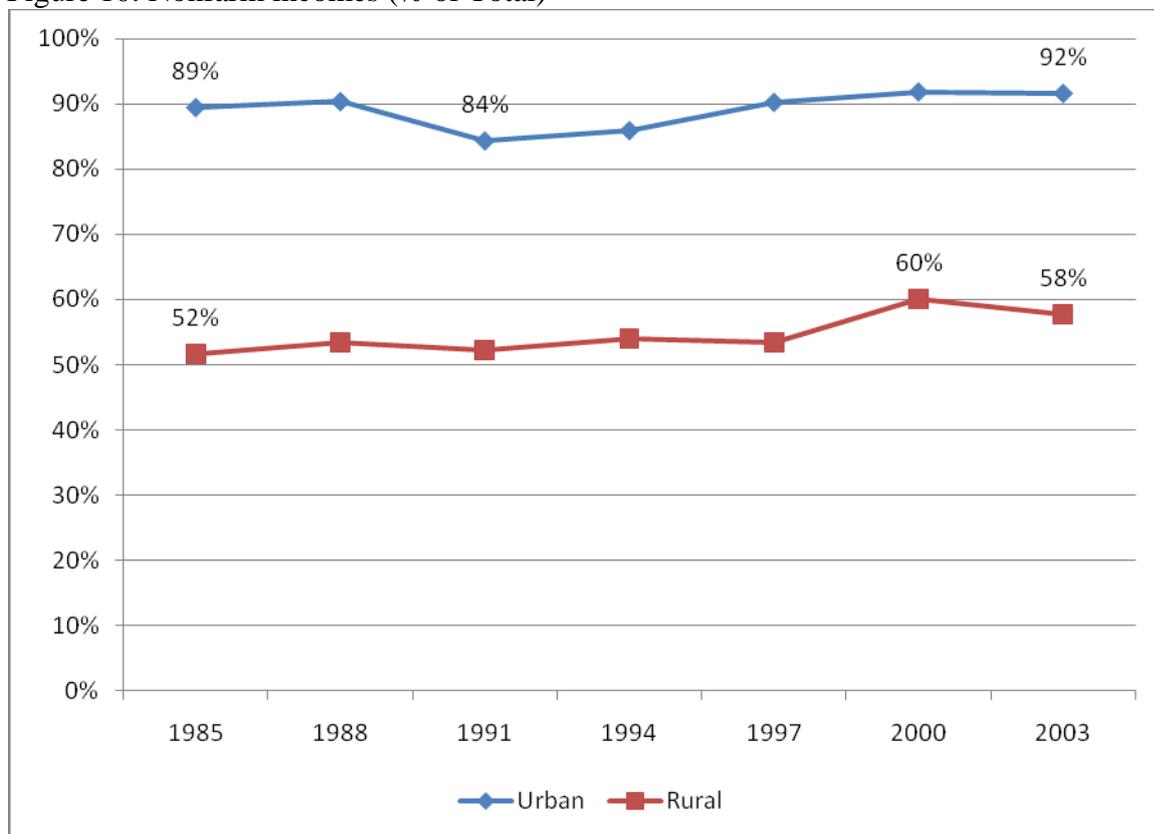
Figure 9: Share of employment in agriculture (1989–2006)



Source of data: ADB Key Indicators 2007

Several studies have indicated that nonfarm incomes as a proportion of total incomes have been increasing. Using panel data from four rural villages in the Philippines, Otsuka and Estudillo (2007) found that nonfarm incomes increased from 36 percent to 60 percent of rural incomes in marginal agricultural areas, and from 45 percent to 70 percent in high-potential agricultural areas. This observation is confirmed by national level statistics. Data on family income and expenditures show that nonfarm incomes have generally risen between 1985 and 2003, from 89 percent to 92 percent among urban households; and from 52 percent to 58 percent among rural households (Figure 10). Rural nonfarm incomes grew by 0.4 percentage points per year or about two percentage points in five years. On the other hand, urban nonfarm incomes grew by 0.2 percentage points per year or about one percentage point in five years. The nonfarm economy is therefore emerging as a driver of development. This is one reason the fall in the employment share of agriculture has been faster than the fall in value-added share of this sector.

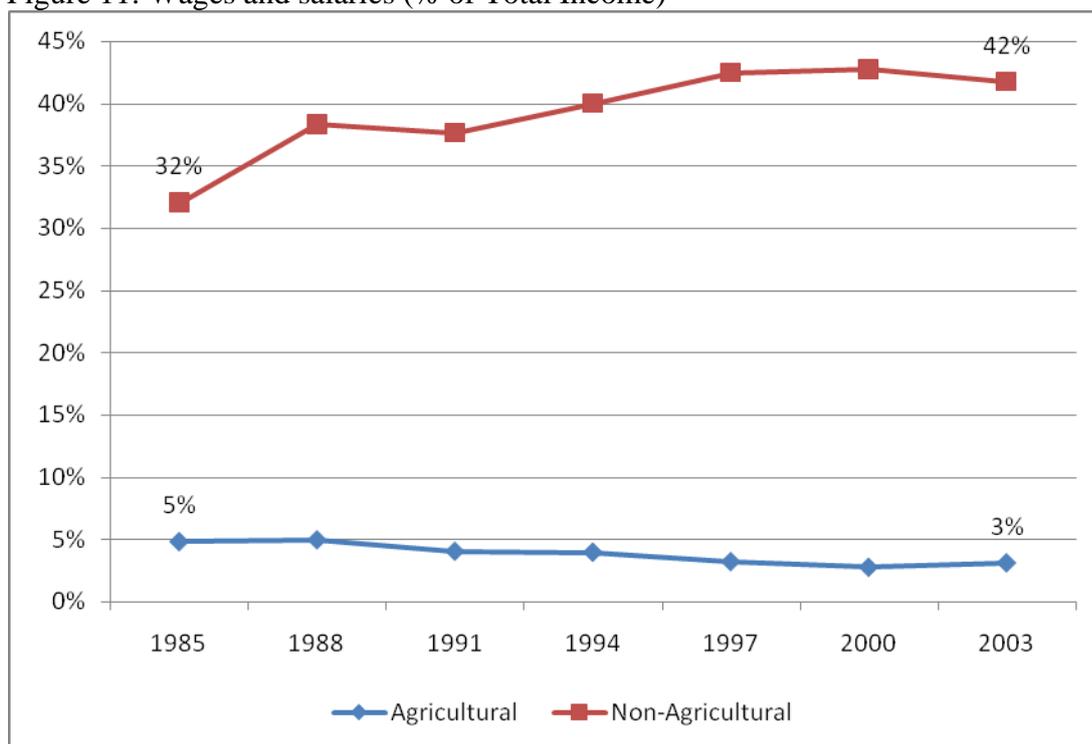
Figure 10: Nonfarm incomes (% of Total)



Source of basic data: FIES 1985–2003, NSO

In the Philippines, nonfarm incomes come from two main sources: nonfarm wages and salaries, and nonfarm entrepreneurial income. As of 2003, nonfarm wages and salaries comprised 42 percent of total household income, up from 32 percent in 1985 (Figure 11). On the other hand, farm wages comprised only 3 percent of total income, down from 5 percent in 1985.

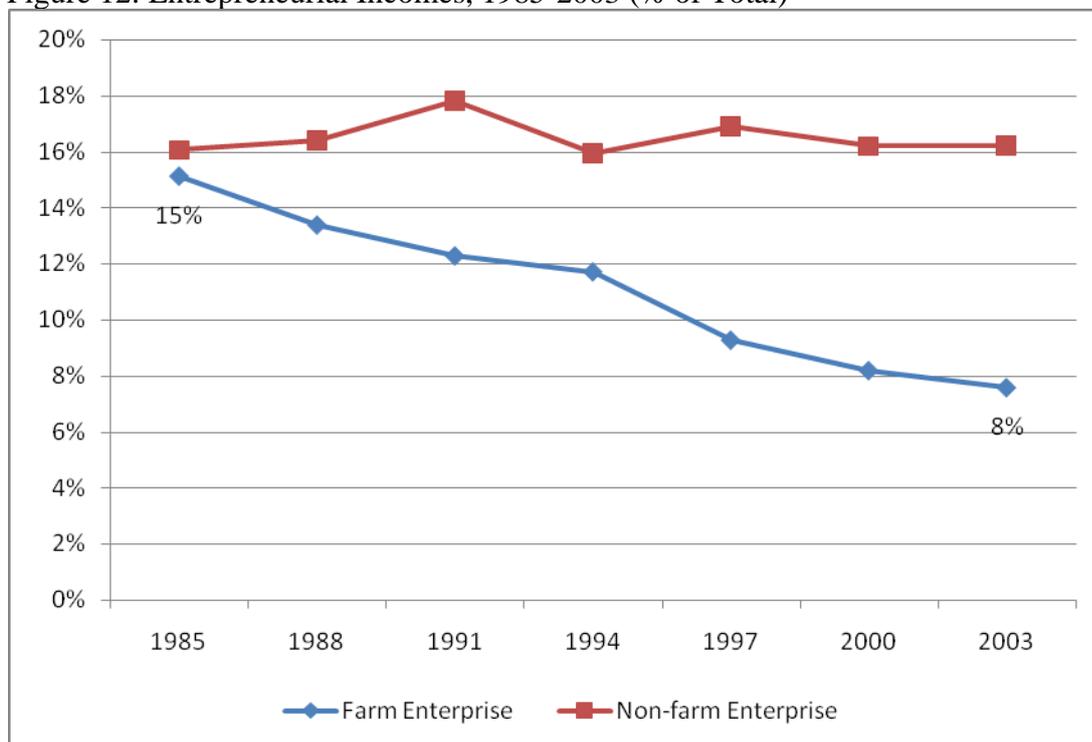
Figure 11: Wages and salaries (% of Total Income)



Source of basic data: FIES 1985–2003, NSO

Entrepreneurial income from nonfarm activities comprised 16 percent of total income in 2003, which is not significantly different from 1985 (Figure 12). However, it increased in proportion to total entrepreneurial income, from 51 percent in 1985 to 68 percent in 2003.

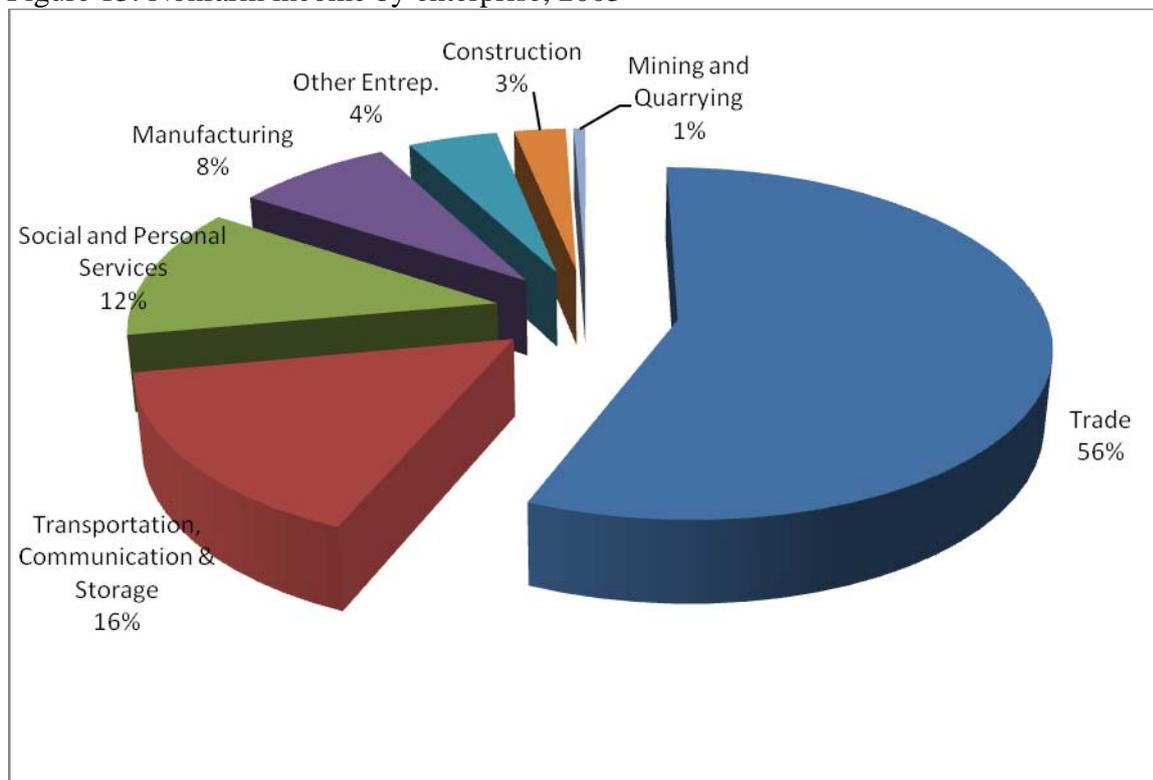
Figure 12: Entrepreneurial Incomes, 1985-2003 (% of Total)



Source of basic data: FIES 1985-2003

As of 2003, the bulk of the nonfarm entrepreneurial income (55 percent) is related to wholesale and retail trade (Figure 13). This is followed by transportation, communication, and storage (16 percent); community, social, and personal services (12 percent); and manufacturing (8 percent). Construction and mining and quarrying comprise the smallest shares of entrepreneurial income at 3 percent and 1 percent, respectively, together with other entrepreneurial activities (5 percent).

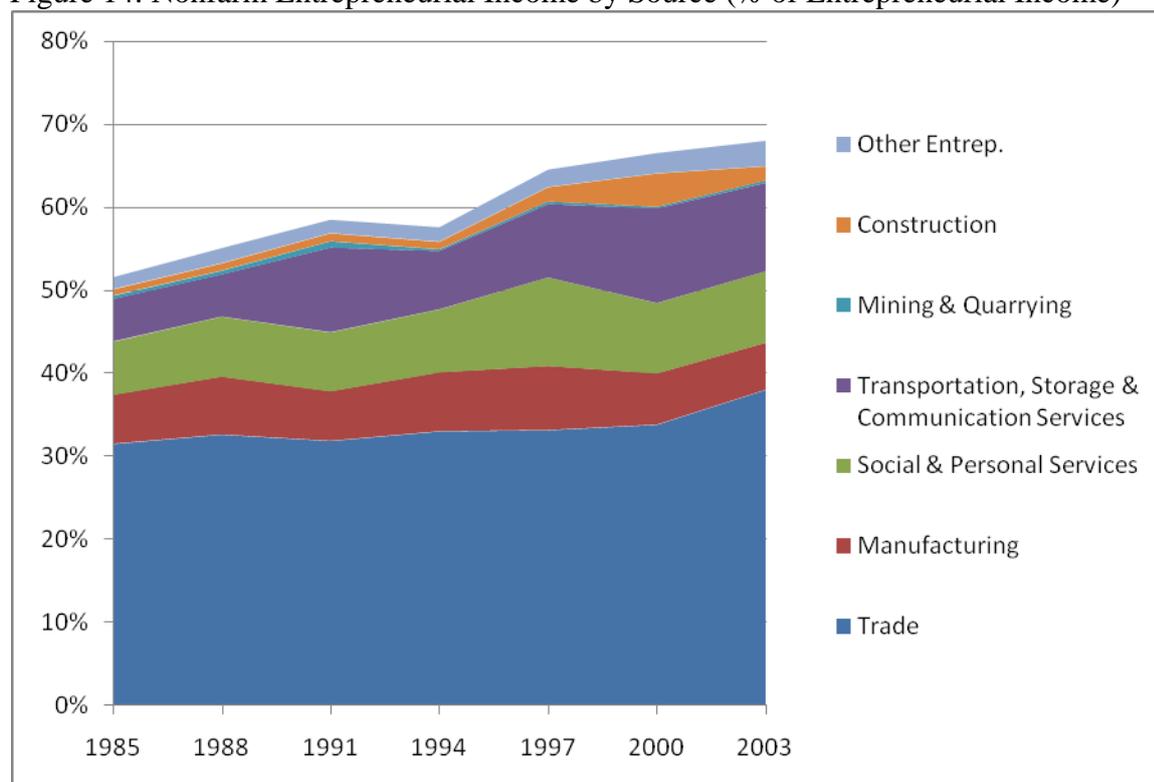
Figure 13: Nonfarm income by enterprise, 2003



Source of basic data: FIES 2003

Trade also has the largest growth relative to total income between 1985 and 2003, at seven percentage points followed by construction at six percentage points (Figure 14). Social and personal services and income from other entrepreneurial activities grew by 2 percentage points, while construction grew by one percentage point. Manufacturing and mining and quarrying were relatively unchanged.

Figure 14: Nonfarm Entrepreneurial Income by Source (% of Entrepreneurial Income)



Source of Basic Data: FIES 1985-2003

It has been suggested that nonfarm income is the major contributor to the overall increase in income in rural areas (Otsuka and Estudillo 2007). An analysis of the 2003 Family Income and Expenditure Survey (FIES) data confirms this. A 10 percent increase in nonfarm incomes was accompanied by a 5 percent increase in total incomes. On the other hand, a 10 percent increase in farm incomes was accompanied by a 0.4 percent decline in total incomes. The elasticity of total income to nonfarm incomes differs with urbanity. In urban areas, the elasticity is 0.7 while in rural areas, the elasticity is 0.4. This means that total incomes in urban areas are more responsive to improvements in nonfarm incomes, as may be expected.

Another reason for the importance of nonfarm incomes is the fact that poverty incidence is higher in rural areas. As of 2003, poverty incidence in rural areas was 43.6 percent compared to 16.5 percent in the urban areas. Thirdly, the rural nonfarm economy (RNFE) has been argued to be a potentially important contributor to poverty reduction (Haggblade, Hazell, and Reardon, 2005). Poverty in Asia has been observed to be decreasing since the 1990s. Using panel data on the Philippines, Thailand, Bangladesh, and India, Otsuka and Estudillo (2007) attribute this largely to the movement of rural households from farm activities to nonfarm activities with the increasing wages in nonagricultural sectors. This movement has been driven by the increasing education of children among rural households. Investment in education was in turn due mainly to the increases in farm income from the Green Revolution.

An analysis of the 2000 FIES reveals that nonagricultural households (those with nonfarm incomes greater than or equal to 50 percent of total incomes) are 5.6 times less likely to be poor than agricultural households. One percent additional nonfarm income reduces the likelihood of poverty by 14 percent.

The reduction in poverty is related to the increase in nonfarm incomes, particularly of nonfarm wages and salaries. As the proportion of rural nonfarm wages and salaries to total income increases by 10 percentage points, rural poverty decreases by 5.2 percentage points. The effect is much stronger in urban areas: as urban nonfarm wages increase by one percentage point, urban poverty decreases by almost twice as much (1.96 percentage points).

However, nonfarm entrepreneurial income does not have a significant effect on poverty reduction in rural areas. On the other hand, quite surprisingly, the reduction of nonfarm entrepreneurial income in urban areas is associated with a reduction in poverty. It may be that high-productivity entrepreneurial incomes of the rich have declined while entrepreneurial incomes among the poor have risen. This can be proven by analyzing nonfarm entrepreneurial income by decile.

The nonfarm economy is also important in that it affects the distribution of income. It has been suggested that the rural non-farm economy often becomes polarized, with sharply unequal distribution of income (Haggblade, Hazell, and Reardon 2005). National survey data confirm this. As of 2000, the average per capita nonfarm income among the nonpoor was P39,784. The average for the poor is only P5,676 per person.

Agricultural households whose farm incomes are not sufficiently above the poverty threshold undertake nonfarm activities which yield very little, only P2,479 per person per year. On the other hand, nonpoor households earn nonfarm incomes averaging P34,526 per person per year. The disparity in incomes is likely a result of disparity in assets, with the rich having more land, capital, and education. With better education, for instance, the rich are able to undertake more high-productivity nonfarm activities. An additional year of schooling for the household head increased nonfarm income for the household by P22,660 per year, or P5,612 per person.

The higher the nonagricultural income relative to total income, the greater the disparity (standard deviation) in total income within provinces, both at the household and individual levels. As nonfarm income increases by 10 percent, the disparity in total income increases by 5 percent, at both levels. However, the increase in nonfarm income reduces the disparity in nonfarm income. As nonfarm income increases by 10 percent, the disparity in nonfarm incomes decreases by 1 percent. This is consistent with evidence in the literature on the mixed effects of nonfarm incomes on equity. Although nonfarm incomes increase on the average, their distribution may be more uneven. This suggests the need for interventions aimed at increasing entrepreneurial productivity especially among the poor. This means that nonfarm entrepreneurs gain alike while non-entrepreneurs relatively lose. This makes a case for promoting nonfarm enterprise to a greater proportion of the population.

F. Institutional development

The economic performance of the Philippines has been considered a major development puzzle (Balisacan and Hill 2003). While it had the requisites of a “modern democratic state” after the American occupation, its economic performance over the next half century (1950–2000) was poor compared to many of its neighbors. Various explanations have been proffered including its archipelagic geography, harsh climate, inability to attract investments, and its economic policies. However, much of its economic performance has yet to be explained. Beyond short-term factors, the Philippines is distinct from the rest of Asia in two aspects: it was the only Spanish Catholic colony in Asia and was later occupied by America (Nelson 2007).

During the Spanish period, the Philippines saw only limited scientific progress and economic development. On the other hand, the American started an age of modernization and

economic growth by introducing land reform, establishing democracy, and improving public health care. By 1938, the Philippines surpassed all Asian countries except Japan, in terms of per capita income, health, and education indicators. Through much of the early 20th century, income per capita in the Philippines was over two-thirds that of Japan, and the two were poised to converge in the second half of the century. Instead, there has been a wide divergence in the incomes of the two countries. It was other Asian countries caught up with the Philippines, even surpassing it, as did Taiwan (in 1962), South Korea (1967), Thailand (1977), Indonesia (1985), and China (1992). Current trends suggest that Vietnam and India will soon catch up with, and surpass the Philippines.

There is no common explanation for the poor performance of the Philippines since the 1950s. The Philippines had greater physical and human capital than many Asian economies. Its geographic characteristic and natural endowment were not necessarily disadvantaged as similar characteristics did not hinder Japan's economic growth. Among the most important factors cited are poor institutions and governance. In particular, Fabella (2000 quoted in Nelson 2007) notes that the rule-of-law is tenuous and enforcement is uncertain. However, other Asian countries experienced similar problems and yet have performed economically well. Several Asian countries present a paradox of being among the most corrupt and yet are able to draw investment. Apparently, certain types of corruption have a market-like effect where businesses vie for privileges from government, greasing the wheels of commerce and reducing transaction costs. Some view corruption as additional compensation for poorly-remunerated public servants, and a means of redistributing income. As such, they are not much different from legal fees except that the latter are "socially approved" (Nelson 2007).

The problem of the Philippines is that corruption is unpredictable and diffuse, undermining the commitment and credibility of the government (de Dios and Esfahani 2007 quoted in Nelson 2007). For this reason, the Philippines experienced difficulty in attracting investment. Nelson points to the importance of culture and religion in the economic performance of the Philippines, noting that although the United States has improved the physical infrastructure of the country, it did not succeed in developing its "cultural infrastructure." The cultural influence of the Spanish seems stronger than that of the Americans. As a result, in contrast to America's Protestant ethic, Catholicism dominates Philippine culture.

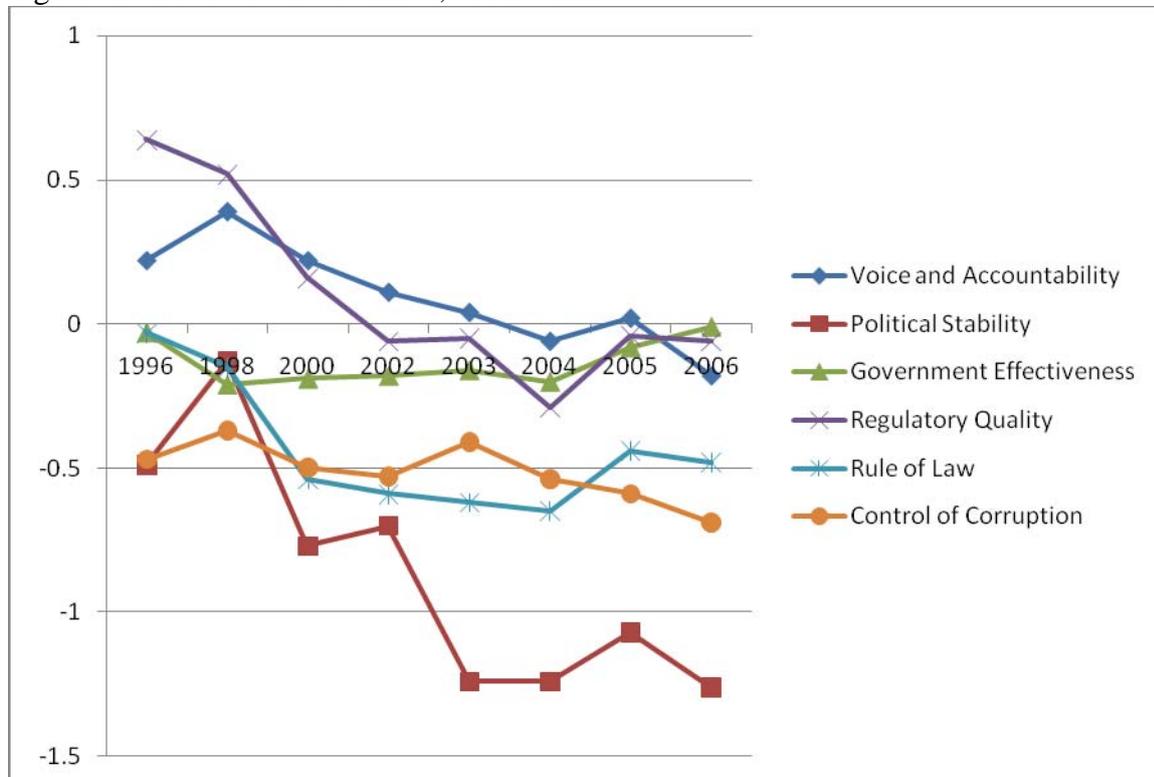
The fundamental difference lies in origins of American and Spanish influence, to wit: "in England the Reformation triumphed, whereas Spain was the champion of the Counter-Reformation" (Paz 1979 quoted in Nelson 2007). For the Spanish colony Mexico, for instance, work is considered of no value, even oppressive, whereas in the United States, with the Puritan influence, work is considered liberating. Spanish Catholicism taught a tradition that prohibited evaluation and critique. With the Counter-Reformation, Spain and her colonies "closed themselves to the modern world." Counter-reformation was a grand scheme to seize change to maintain the status quo. Consequently, Spain and her colonies were unsympathetic to industrial capitalism and curtailed the market. The same unfavorable attitude to free market as well as democracy was implanted in the Philippines with the Spanish Catholic heritage.

In contrast to the Confucian ethic found in much of East Asia where "self-cultivation" is nurtured and social responsibility is integral, a feudal outlook pervades in the Philippines where individual interest subverts the social good. Kunio (1994 cited in Nelson 2007) observed that in recent decades, the Catholic Church was exposed to liberal ideas. However, this has at times resulted in rebellion and violent uprising in the name of social justice; harming society, the economy, and especially the poor. Moreover, the Philippines exemplifies a failure of democracy with the democratic government instituted by the Americans turning to authoritarianism (Nelson 2007).

The Philippines also shares similar characteristics with Latin American countries, such as corruption and political violence. Nelson (2007) argues that culture plays a critical role in the political system and that understanding both is critical to explaining economic outcomes. Also characteristic of the Catholic heritage is the dependence of individual decision-making on the church authority in contrast to the Protestant emphasis on freedom and responsibility. In Latin America, there is a propensity to swing from submission to rebellion. Moreover, Catholicism equates disagreement with conflict, whereas Protestantism views disagreement as normal. Furthermore, the “Spanish Catholic personality” avoids responsibility while displacing guilt by assigning all responsibility to the state. In the face of regulations, there is a tendency for rebellion. The work ethic is linked to the view of salvation. With the Catholic view that “salvation is external and infallible,” to take responsibility and exert effort is seen as unnecessary, even useless.

Kaufmann, Kraay and Mastruzzi (2007) compile country data on governance indicators. The Philippines’ performance in terms of the various governance indicators are shown in Figure 15. It shows that voice and accountability, political stability, and control of corruption are perceived to have improved in 1998, although perceptions of regulatory quality, government effectiveness, and rule of law worsened. However, from 1998 to 2004, governance in practically every aspect deteriorated. Perception of most aspects of governance rebounded in 2005 except the control of corruption, but this quickly dropped in 2006. Among the governance indicators, the Philippines performs best in regulatory quality bettering over 70 percent of countries (with a percentile rank of 72.2). It also does relatively better than most countries in government effectiveness (rank is 59.7), voice and accountability (55.5), and rule of law (54.3). However, the Philippines fares poorer than most countries in the control of corruption (35.4) and in political stability (29.8).

Figure 15: Governance indicators, 1996–2006



Source: Data from Kaufmann, Kraay and Mastruzzi (2007)

IV. Regional Development

A. Economic Growth

Balisacan, Hill and Piza (2007) revealed the disparity in economic activity and its concentration in the national capital and surrounding regions in 2003. The latest data show that the concentration of economic activity has increased (Table 3). The National Capital Region continues to dominate the Philippine economy, producing over one-third of the country's gross domestic product in 2006. Its share in economic output is almost three times its population share. Central Luzon and Calabarzon produced almost one-fifth of the country's total output. Together, these three regions produced over half of the country's output. Luzon makes up two-thirds of the economy's total production while Visayas and Mindanao each make up only one-sixth of economic output. Apart from NCR, only Cordillera and Northern Mindanao have shares to GDP higher than their population shares. Most regions have output shares of only 50 to 94 percent of their population shares. ARMM GDP share is only 21 percent of its population share.

Table 3: Key Economic Indicators (2006)

	Distribution of GRDP	Population Share	Growth of GRDP	Per Population Growth	Per Capita Growth	Index of Per capita GRDP
Philippines	100.0	100.0	5.7	2.04	3.6	100
NCR	37.3	13.0	7.1	2.11	5.5	297
CAR	2.1	1.8	3.4	1.50	1.2	118
I - Ilocos	2.9	5.3	4.9	1.10	2.8	52
II - Cagayan Valley	1.8	3.6	3.6	1.13	1.8	49
III - Central Luzon	7.7	10.7	4.4	2.36	2.2	71
IV A - CALABARZON	11.5	12.7	4.5	3.21	2.1	91
IV B - MIMAROPA	2.1	2.9	4.0	1.49	1.2	65
V - Bicol	2.5	5.9	3.9	1.20	1.9	40
VI - Western Visayas	6.5	7.9	5.4	1.35	3.4	81
VII - Central Visayas	6.9	7.3	5.7	1.59	3.5	93
VIII - Eastern Visayas	2.3	4.6	4.8	1.12	2.6	48
IX - Zamboanga Peninsula	2.2	3.7	4.7	1.83	2.6	59
X - Northern Mindanao	4.6	4.5	6.4	1.67	4.2	100
XI - Davao	4.4	4.7	5.6	1.71	3.8	93
XII - SOCCSKSARGEN	3.2	4.3	6.0	2.41	3.6	76
CARAGA	1.2	2.7	4.7	1.25	2.8	46
ARMM	0.9	4.2	6.4	5.46	4.0	23

Note: Based on GRDP in chained prices⁷

Source of basic data: 2007 Philippine Statistical Yearbook

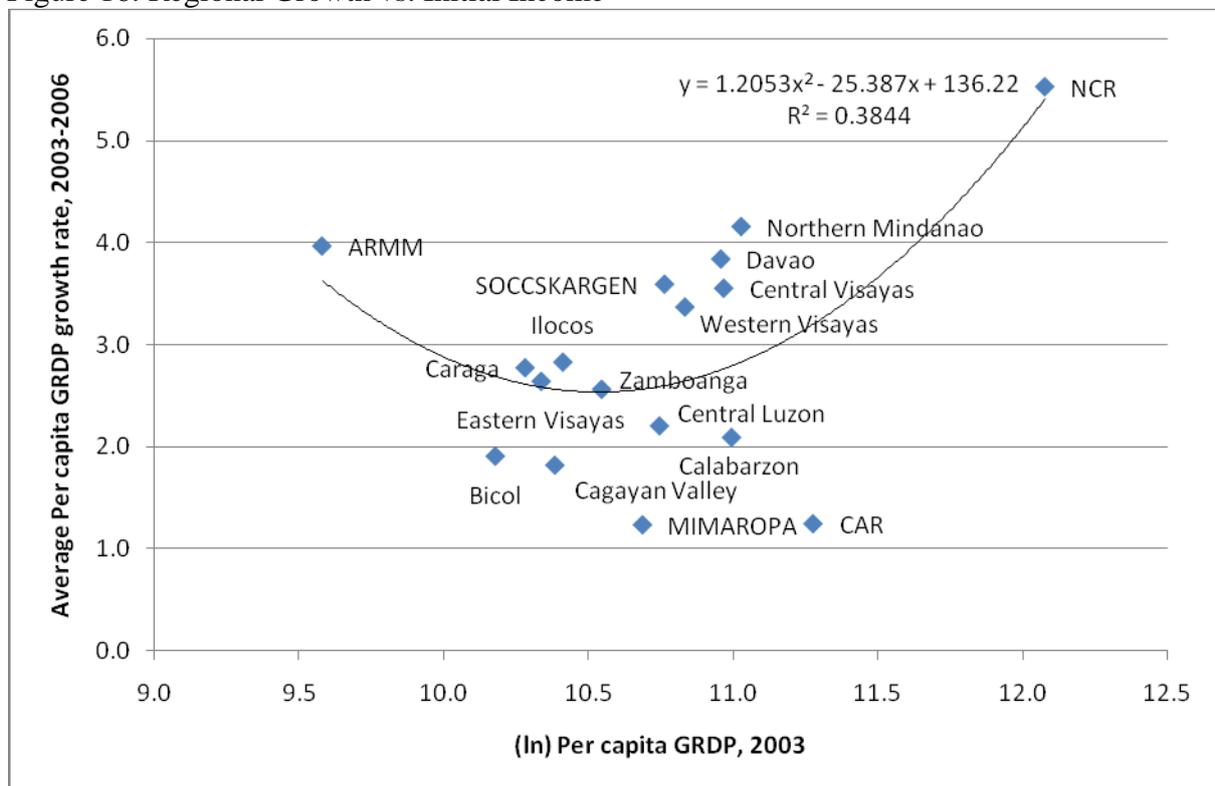
Disparity in terms of per capita income also increased between 2003 and 2006. Manila remains the richest region, with its per capita income in 2006 being 3 times the national average. This is 2.5 times more than the per capita income of the next wealthiest region and almost thirteen times that of the poorest. CAR and Northern Mindanao remain the

⁷ The methodology for chained price GDP was adapted from Dumagan (2008).

only other regions with per capita incomes at or above the national average. The rest of the regions have per capita incomes even lower than the national average for 2002. These may be classified into several groups. One group includes those with per capita incomes of at least 60 percent of the national average. This group includes Davao, Calabarzon, Western Visayas, SOCCSKARGEN, Central Luzon and MIMAROPA. Six other regions comprise another group with per capita incomes of at least 40 percent of the national average. These are Zamboanga, Ilocos, Eastern Visayas, Cagayan Valley, CARAGA and Bicol. ARMM's per capita income (only 23 percent of the national income) remains well below the rest of the regions.

Relating average growth of per capita GRDP in 1985-2003 to per capita income in 1985, Balisacan, Hill and Piza (2007) found no evidence that regional income converged. However, the result is said to be sensitive to the level of aggregation as Balisacan (2007) found convergence in provincial incomes. To determine convergence in recent years, we relate average growth in 2004-2006 per capita income in 2003 (Figure 16). The scatterplot shows that the richest region (NCR) also grew the fastest, growing by an average of 5.5 percent between 2003 and 2006. For the third richest region, Northern Mindanao, and four of the six medium-income regions, growth increased with income. For the rest of the regions, however, growth seems to have declined with initial wealth. Most striking is the fact that the second richest region (CAR) grew the slowest (together with MIMAROPA) while the poorest region, ARMM, had among the highest growth in recent years at 4 percent. The regression line that best fits the data reveals a polynomial trend. Incomes among poorer regions tend to converge while incomes among richer regions tend to diverge. Growth seems to pick up as per capita reaches a certain threshold (Zamboanga is at the threshold level). Although the trend is for a limited period (convergence is argued to be a long-term phenomenon), it is nevertheless instructive. It implies that growth is only sustainable once a certain minimum standard of living is attained.

Figure 16: Regional Growth vs. Initial Income



Source of basic data: 2007 Philippine Statistical Yearbook, NSCB

Services already constitute about 54 percent of the national economy (Table 4). Industry makes up less than a third while agriculture is now only 14.5 percent of GDP. Across regions, however, the composition of GRDP varies considerably. While for most regions, the services sector dominates, constituting at least 40 percent of GRDP, industry dominates in CAR and MIMAROPA while agriculture dominates in SOCCSKSARGEN and ARMM. Interestingly, CAR and MIMAROPA had the lowest growth rates in recent years while SOCCSKSARGEN and ARMM had among the highest. On the demand side, personal consumption makes up most of gross regional domestic spending, comprising close to three-quarters. Gross domestic investment constitutes 16 percent while government consumption makes up over one-tenth.

Table 4: Economic Structure

	GRDP			PCE	GRDE	
	Agriculture	Industry	Services		GCE	GDI
Philippines	14.5	31.7	53.8	74.8	10.4	14.9
NCR	0.0	31.5	68.5	71.6	13.6	14.8
CAR	9.7	59.7	30.6	64.8	12.8	22.4
I - Ilocos	34.6	15.1	50.3	77.9	8.3	13.8
II - Cagayan Valley	39.8	16.8	43.3	70.0	10.9	19.1
III - Central Luzon	18.5	36.1	45.4	78.5	7.2	14.3
IVA - CALABARZON	18.4	37.9	43.7	78.6	6.0	15.4
IVB - MIMAROPA	35.3	40.0	24.7	72.1	12.2	15.7
V - Bicol	19.9	23.0	57.0	81.3	9.2	9.5
VI - Western Visayas	20.6	28.3	51.1	78.9	8.9	12.2
VII - Central Visayas	8.9	31.4	59.7	68.9	7.4	23.6
VIII - Eastern Visayas	27.7	31.1	41.1	74.2	12.2	13.6
IX - Zamboanga Peninsula	37.6	19.2	43.2	75.8	12.7	11.4
X - Northern Mindanao	26.8	33.2	40.0	76.0	8.6	15.3
XI - Davao	23.2	29.7	47.1	76.7	9.4	13.9
XII - SOCCSKSARGEN	37.9	31.9	30.1	74.5	9.6	15.9
CARAGA	33.4	26.2	40.4	72.9	12.4	14.7
ARMM	49.4	11.0	39.7	81.9	14.8	3.4

Source of basic data: 2007 Philippine Statistical Yearbook, NSCB

Standard growth theory relates output to inputs of labor and capital. Regressing gross regional domestic product (in log form) on employment (also in log) and investment rate reveals that as employment increases by 1 percent, regional output increases by 1.04 percent and as the share of investment increases by 1 percentage point, regional output increases by 5.14 percent. It might seem that low employment is the reason for low regional output. However, employment rates among the regions with low GRDPs are actually higher than the national average while the regions with high GRDPs have lower than average employment rates except for Western Visayas. Similarly, Esguerra and Manning (2007) found unemployment rates in 2002 to be higher in more developed regions. They attribute this to the migration of labor from less developed regions and poverty in the poorer regions which compel labor to take on any employment. Underemployment is argued to be a better indicator of “labor market imbalance in poor regions.”

The regression line fitting regional output by employment can be used to indicate relative productivities across regions with regions on or above the line having higher than average productivity while those below the line have lower productivities. Actual labor productivities across regions are shown in Table 5. It shows that six regions have higher than average productivity. These are NCR, CAR, Calabarzon, Central Visayas, Northern Mindanao, and Davao. Most notable are the high labor productivities in CAR and NCR. A second group with productivity over two-thirds the national average includes Ilocos, Central Luzon, MIMAROPA, Western Visayas, Zamboanga, and SOCCSKSARGEN. Finally, the levels of productivity in Cagayan Valley, Bicol, Eastern Visayas, CARAGA and ARMM are less than two-thirds of the national average. Labor productivity is notably lowest in ARMM, only about a third of the average.

Table 5: Labor Productivity by Sector by Region (2003-2006)

	Total	Agriculture	Industry	Services
	100	100	100	100
NCR	365		200	316
CAR	141	51	331	124
I - Ilocos	67	121	31	81
II - Cagayan Valley	54	76	52	74
III - Central Luzon	93	165	67	81
IV-A - Calabarzon	117	260	69	99
IV-B - Mimaropa	80	119	132	59
V - Bicol	52	47	38	71
VI - Western Visayas	96	97	97	107
VII - Central Visayas	115	70	73	154
VIII - Eastern Visayas	59	68	69	57
IX - Zamboanga Peninsula	72	107	60	83
X - Northern Mindanao	105	127	139	97
XI - Davao	108	123	103	113
XII - Soccsksargen	90	133	129	72
XIII - Caraga	53	81	44	50
ARMM	35	56	67	60

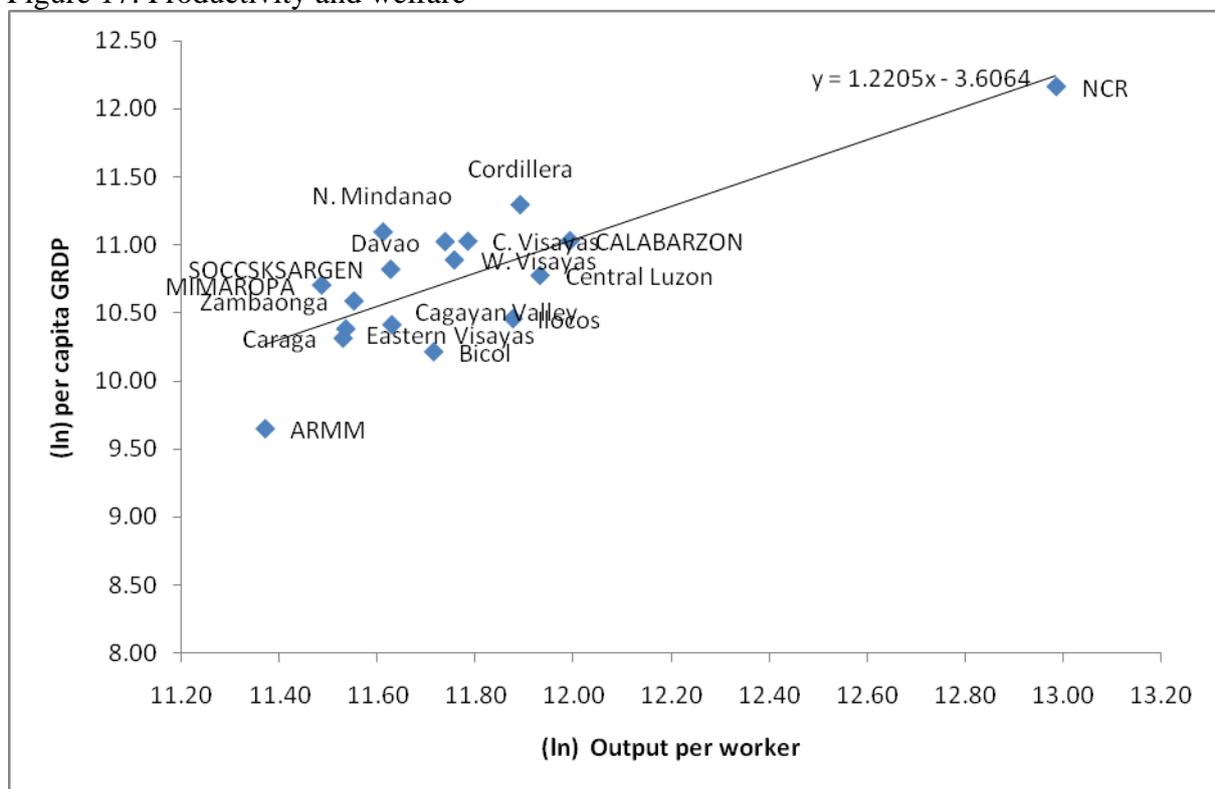
Source of basic data: National Statistical Coordination Board (2007), Labor Force Survey - NSO (various years)

Agricultural productivity is highest in CALABARZON followed by Central Luzon. SOCCSKSARGEN, Northern Mindanao, Davao, Ilocos, MIMAROPA and Zamboanga Peninsula also have higher than average agricultural productivity. Agricultural productivity is lowest in Bicol, Cordillera and ARMM. Industrial productivity is highest in Cordillera, over 3 times the average across regions. This is followed by NCR at twice the average. Industrial productivity in Northern Mindanao, MIMAROPA, SOCCSKSARGEN, and Davao is also above the average. Industrial productivity is lowest in Ilocos, Bicol and Caraga. Productivity in services is highest in NCR at over 3 times the average. This is followed by Central Visayas (154), Cordillera (124), Davao (113) and Western Visayas (107). For the rest of the regions, productivity is below the average. Productivity in services is lowest in Caraga (50), Eastern Visayas (57), MIMAROPA (59), and ARMM (60).

In principle, productivity would be higher in the dominant sector as the economy shifts to the sector where it has comparative advantage. As expected, productivity is higher in services relative to that in agriculture and industry in NCR, Western Visayas, Eastern Visayas. In CAR and MIMAROPA, productivity in industry is highest while in SOCCSKSARGEN, productivity in agriculture is highest. However, in many other regions, productivity in the dominant sector is lower than those in other sectors, notably in ARMM where, productivity in agriculture is lower than those in industry and services.

Per capita incomes depend on labor productivity (Figure 17). The low per capita incomes in some regions such as ARMM, Caraga and Eastern Visayas are generally due to low labor productivity. However, per capita regional income may be lower than can be predicted with productivity due to a large population share (relative to GDP share) and a high population growth. This is especially true for ARMM, Bicol and Ilocos. So, low per capita income can be due to low productivity or a large population.

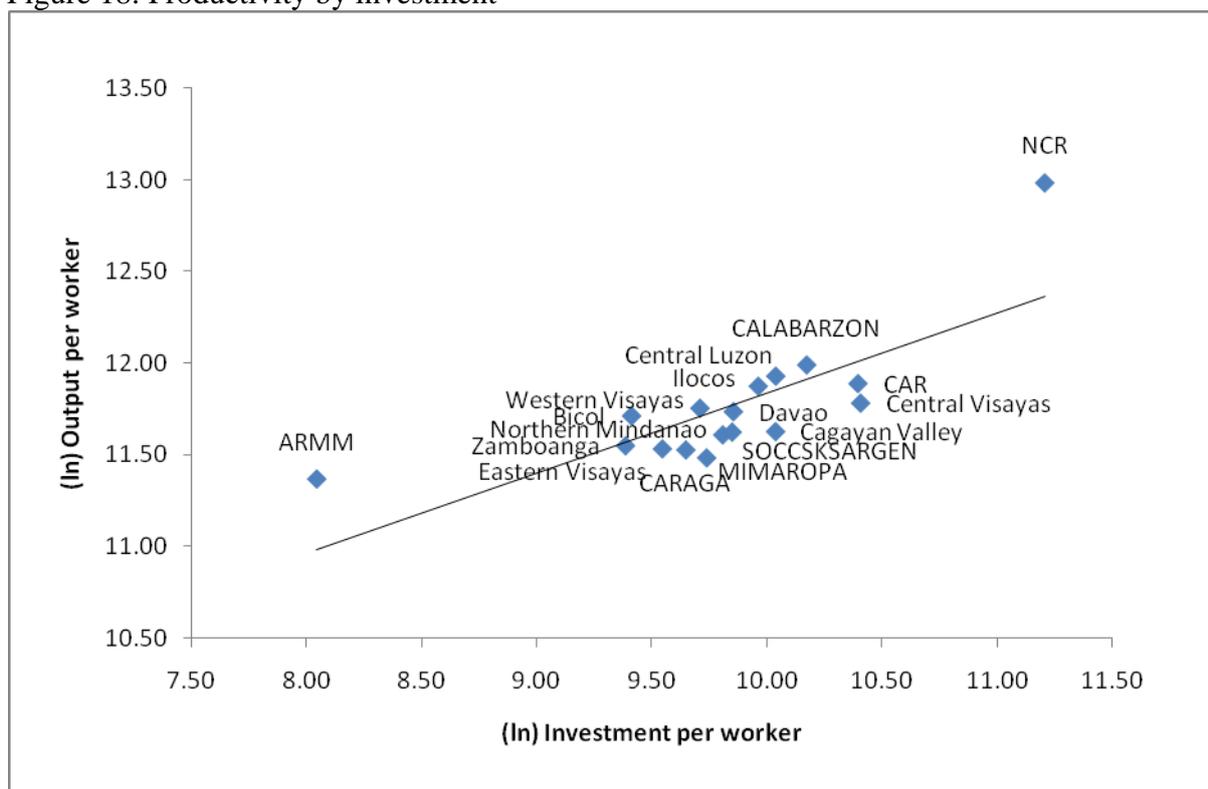
Figure 17: Productivity and welfare



Source of basic data: Philippine Statistical Yearbook, NSCB (2007)

Regional output clearly increased with investment. Output per worker also increased with investment per worker (Figure 18). The productivity of labor in NCR is high because investment per work is high. It is notable that although productivity in ARMM is low, it is somewhat high relative to its investment per worker. To make up for low investment, government spending should be higher where investment is low. However, government consumption expenditures are positively correlated with gross domestic investment. On a per capita basis, excluding NCR, CAR and ARMM, government spending per person is generally higher in regions with low investment per worker. However, government spending in ARMM remains low for its level of investment.

Figure 18: Productivity by investment



Source of basic data: Philippine Statistical Yearbook, NSCB (2007)

B. Infrastructure Development

Llanto (2007) analysed the state of infrastructure across regions and found that access to basic infrastructure depends on regional output. Using 2003 data, he found that poorer regions suffered from inadequate infrastructure. The resulting inefficiency in the transport system in turn hindered integration. Regressing regional growth on regional infrastructure and human capital, Llanto found that both infrastructure and human capital significantly and positively affected regional growth. However, he qualifies that growth relies more on the quality than on the density of roads. Moreover, quality local roads contribute more to growth than total road quality providing rationale for the significant role of local governments in infrastructure investments. However, investments in local infrastructure, both by the national government and local government units are low especially in relation to those of other ASEAN countries. Infrastructure spending by LGUs even decreased between 1993 and 2002. Inadequate infrastructure ranked third among the factors discouraging investment. Llanto explains three important reasons for the inadequate investment in infrastructure. One is weak fiscal capacity. At the national level, this is primarily due to the decline in the tax effort. As a result, infrastructure bears the brunt of forced savings and the government is unable to provide guarantees to attract private investors. Local governments still have relatively weak fiscal capacities, generally unwilling to raise revenues apart from the IRA. Second, partnerships with private investors on the provision of infrastructure is weak due to the absence of credible or independent regulators. Lastly, infrastructure investment is fraught with political capture with politicians pursuing infrastructure other than those identified under the infrastructure program.

Table 6 shows the latest data on access to infrastructure. In terms of national road density, 9 out of 17 regions have a national road density higher than the national average.

Cagayan Valley, Central Luzon, MIMAROPA, Zamboanga Peninsular, Davao and Caraga have lower national road density than the national average. Of all the national roads, only 45.5 percent is paved. The proportion of paved national roads is higher than the average for only six regions. For 11 regions excluding ARMM, the proportion is lower especially in Cordillera and MIMAROPA. The disparity in access to telephone is even more severe. Whereas almost a third of the population in NCR have access to telephone, less than one in ten people have such access in all other regions except Region IV. ARMM, Zamboanga Peninsula, Cagayan Valley, SOCCSKSARGEN and Bicol have the lowest telephone densities. Access to safe water seems to be less uneven. In fact, the proportions of the population with access to safe water in Ilocos, Cagayan Valley, Central Luzon and Calabarzon are higher than that in NCR. However, access in ARMM is still way below those in other regions. The same is true for access to sanitation and to electricity.

Table 6: Access to Basic Infrastructure

	National road density 2007 /a	Paved (%)	Telephone density 2006 /b	Access to safe water /c	Access to sanitary toilet /c	Access to electricity /d
Philippines	98	45.5	8.28	77.9	85.4	79.5
NCR	1622	69.1	31.12	81.2	98.1	99.0
Cordillera	101	30.0	5.48	73.2	84.5	75.5
I - Ilocos	125	54.7	3.79	82.8	95.7	86.1
II - Cagayan Valley	66	51.4	1.42	84.9	95.0	78.4
III - Central Luzon	95	48.6	4.5	94.5	96.2	94.5
IV			10.19			
IVA - CALABARZON	148	39.4		84.8	92.7	92.6
IVB - MIMAROPA	80	31.3		76.0	79.7	57.4
V - Bicol	125	41.2	2.3	69.3	76.5	66.6
VI – W. Visayas	142	42.2	6.31	74.2	75.8	72.6
VII – C. Visayas	137	43.8	7.42	70.7	77.3	74.1
VIII – E. Visayas	111	69.0	3.7	77.8	73.2	68.4
IX - Zamboanga	76	44.6	1.14	65.1	65.6	54.5
X – N. Mindanao	120	43.4	3.77	74.6	86.4	72.5
XI - Davao	53	45.8	7.94	76.9	87.4	70.9
XII - SOCCSKSARGEN	91	42.8	2.12	70.8	82.9	66.8
XIII - Caraga	72	41.0	5.39	80.0	87.5	69.2
ARMM	-	-	1.03	39.9	42.8	44.0

Note: /a – km per 1000 sq.km., /b – per 100 population, /c – proportion of population, /d - proportion of families

Source / of basic data: Department of Public Works and Highways, 2007 Philippine Statistical Yearbook, Annual Poverty Indicators Survey 2004 - NSO

Infrastructure affects income. As Llanto (2007) put it, “past investments in infrastructure stocks are critical in determining the current income of the nation.” He found that regions with higher infrastructure investments enjoy higher regional incomes. Relating regional output to the various infrastructure variables, we find strong correlations with the stock of national road (0.7865), telephone density (0.823), and access to electricity (0.6638), moderate correlations with the proportion of paved national road (0.4275) and access to sanitation (0.3319), and weak correlation with access to safe water (0.212). Controlling for the effects of other infrastructure, however, only access to electricity affects regional output. As access to electricity increases by 1 percentage point, regional output increases by 7.4 percent. In light of their correlation coefficients, the insignificance of other infrastructure variables could mean the importance of interaction among these.

Poverty is also related to access to basic facilities/infrastructure. Across regions, as access to safe water increases by one percentage point, poverty incidence decreases by 0.52 percentage point. As access to electricity improves by one percentage point, poverty incidence falls by 0.82 percentage point. As access to sanitary toilet rises by one percentage point, poverty incidence drops by 0.64 percentage point. Access to these facilities also affects human development. For instance, as access to electricity increases by one percentage point, literacy increases by 0.46 percentage point.

C. Human Capital / Human Development

Human capital indicators across regions are shown in Table 7. The table shows differences in school participation and literacy rates across regions. The variation in elementary participation across regions is not great. The difference between the highest (Central Luzon) and the lowest (SOCCSKSARGEN) is only 11 percentage points. Elementary participation across regions does not go below about 85 percent. Secondary participation is more uneven; NCR has the highest secondary participation rate while ARMM has the lowest, the difference is over 40 percentage points. The disparity in tertiary participation is also high, with participation in NCR and CAR the highest at around 31 percent while that for ARMM being 6.5 percent. The difference in simple literacy across most regions is not so great, only about 12 percentage points. However, the especially low literacy in ARMM increases the disparity by 17 percentage points. The disparity is even greater in functional literacy with functional literacy in NCR at 95 percent while that for ARMM is only 63 percent.

Table 7: School participation and Literacy

Region	School Participation 1990-2003				
	Literacy 2003		Elementary	Secondary	Tertiary/d
	Simple	Functional			
Philippines	93.4	84.1	91.6	61.0	16.0
National Capital Region	99.0	94.6	94.9	76.8	31.5
CAR	91.6	85.4	91.1	63.8	31.2
I - Ilocos	97.4	88.6	95.4	73.1	15.3
II - Cagayan Valley	92.7	84.4	91.7	61.5	15.3
III - Central Luzon	96.9	86.9	96.3	66.5	10.8
IV-A - Calabarzon	97.2	90.4	95.3	67.1	12.2
IV-B - Mimaropa	91.2	82.3	89.0/a	57.2/a	11.4
V - Bicol	95.0	80.1	93.0	59.1	12.4
VI - Western Visayas	92.8	81.5	90.2	64.4	16.0
VII - Central Visayas	92.4	81.7	90.3	58.6	18.6
VIII - Eastern Visayas	90.1	76.7	88.3	51.5	13.1
IX - Zamboanga Peninsula	88.9	74.8	85.7	48.6	13.0
X - Northern Mindanao	91.8	83.7	88.0	49.5	15.2
XI - Davao	90.3	77.8	85.9	52.0	13.2
XII - Soccsksargen	87.3	77.1	84.7	55.2	11.6
XIII - Caraga	92.1	81.0	89.1/b	33.7/b	10.3
ARMM	70.2	62.9	85.0/c	23.5/c	6.5

Note: /a - average for 2002-2003, /b - average for 1995-2003, /c - average for 1991-2003, /d - proportion to population 15-24 years old

Source / of basic data: 2007 Philippine Statistical Yearbook, PIDS Economic and Social Database, CHED, NSO

Labor productivity is related to school participation and literacy. The average product of labor is highly positively correlated with secondary and tertiary participation ($\rho = 0.6541$ and 0.7644 , respectively) as well as simple and functional literacy ($\rho = 0.5356$ and 0.6913 , respectively) and moderately positively correlated with elementary participation ($\rho = 0.3673$). Controlling for other human capital variables, however, only functional literacy affects productivity. However, agricultural productivity is negatively correlated with literacy as well as school participation at all levels. Controlling for other factors, agricultural productivity negatively depends on tertiary participation. Industrial productivity is highly positively correlated with tertiary participation but weakly positively associated with secondary participation and functional literacy. However, it is weakly and negatively correlated with elementary participation and simple literacy. Even when holding other human capital factors constant, functional literacy and tertiary participation positively affect industrial productivity. However, industrial productivity is negatively related to elementary participation and simple literacy. Productivity in services is highly positively correlated with secondary and tertiary participation and functional literacy and moderately positively associated with elementary participation and simple literacy. Controlling for other human capital factors, productivity in services only depends on tertiary participation.

The concept of human development is broader than human capital. It includes quality of life and health indicators such as life expectancy, nutrition and mortality. Health indicators across regions are shown in Table 8. The average life expectancy in the country as of 2005 was 67.8 years. Four regions had a higher than average life expectancy, notably Central Luzon (69.5), NCR (69.2), Western Visayas (69.1) and Ilocos (68.4). Cagayan Valley, Southern Tagalog, Bicol, Eastern Visayas, Central Visayas, Davao and SOCCSKSARGEN have life expectancies between 66 and 68. On the other hand, life expectancies in Cordillera, Zambaonga, Northern Mindanao and Caraga are between 64 and 66. ARMM has the lowest life expectancy at 58.

Life expectancy is strongly and positively correlated with simple literacy, functional literacy, elementary and secondary participation. It is also strongly but negatively correlated with poverty incidence. It is only moderately correlated with regional per capita income and tertiary participation. In a multiple regression, however, life expectancy only depends on simple literacy. At the provincial level, as life expectancy increases by one year, poverty decreases by 2.15 percentage points. Among the different factors correlated with infant mortality, only malnutrition is significant. As malnutrition rate increases by 1 percentage point, infant mortality increases by 2.2 percentage points. On the other hand, tertiary participation is the significant factor for child mortality although surprisingly, the effect is positive. Maternal mortality, for its part, depends on per capita income, elementary participation and functional literacy. As functional literacy increases by 1 percentage point, maternal mortality decreases by 18 percentage points. However, maternal mortality is positively related to per capita income and elementary participation.

Human capital is as important a determinant of poverty reduction as it is of economic growth. A healthier and more educated population is able to engage in more productive work and earn more income. Poverty incidence is therefore lower among healthier and more educated populations. Across regions, poverty incidence decreases as the level of human development, measured by the Human Development Index (HDI) increases. At the provincial level, as HDI increases by one percentage point, provincial poverty incidence decreases by 1.76 percentage points.

Table 8: Key Health Indicators

	Infant Mortality 2003/a	Child Mortality 2003/a	Malnutrition 2001	Maternal Mortality 2006/a	Life Expectancy 2005
Philippines	30	12	30.6	1,698	67.83
National Capital Region	24	8	20.3	164	69.17
Cordillera Administrative Region	14	20	23.4	23	65.47
I - Ilocos	29	11	31.5	86	68.35
II - Cagayan Valley	28	8	31.2	60	67.42
III - Central Luzon	25	6	25.9	129	69.46
IV - Southern Tagalog			27.8	272	67.63
IVA - CALABARZON	25	6			
IVB - MIMAROPA	44	25			
V - Bicol	28	15	37.8	192	67.63
VI - Western Visayas	39	11	35.2	129	67.28
VII - Central Visayas	28	11	28.3	186	67.30
VIII - Eastern Visayas	36	22	32.0	102	69.12
IX - Zamboanga Peninsula	27	17	31.8	73	65.65
X - Northern Mindanao	38	11	34.1	63	65.70
XI - Davao	38	10	32.3	114	66.19
XII - SOCCSKSARGEN	27	10	30.2	42	67.41
XIII - Caraga	35	14	33.5	12	65.87
Autonomous Region in Muslim Mindanao	41	33	27.9	50	57.99

Note: /a – per 1000 live births

Source: 2007 Philippine Statistical Yearbook, DOH

D. Poverty and Inequality

The slow poverty reduction in the country is traced to the disparity in access to infrastructure and social services with Luzon getting the lion's share of development at the expense of Visayas and Mindanao (Balisacan 2007). Reducing regional disparities should therefore be at the core of the poverty reduction program. Using provincial data from 1988 to 2003, Balisacan (2007) analyzed the determinants of poverty reduction including income growth, initial economic conditions, institutional factors and policy variables. Among the initial condition factors, he found that the rate of poverty reduction is significantly related to mortality and whether the province is landlocked. Among the policy variables, he found that the rate of poverty reduction is significantly and positively related to literacy and road density. However, when controlling for growth, only road density is significant. He concludes that initial conditions and policy variables affect poverty reduction indirectly through growth. As growth increases by 1 percent, poverty decreases by only 1.3 percent, low when compared to other developing countries.

Income inequality is measured using the gini coefficient which ranges from 0 (perfect equality) to 1 (perfect inequality). The gini coefficient for national income distribution is 0.46 (Table 9). Inequality in seven regions is the same as or higher than the national average; starting from the most unequal, these are Zamboanga, Northern Mindanao, SOCCSKSARGEN, Bicol, Central Visayas, Eastern Visayas and Davao. A second group including NCR, CAR, Cagayan Valley, CALABARZON, MIMAROPA, Western Visayas

and CARAGA have inequality coefficients between 0.40 and 0.45. Ilocos, Central Luzon and ARMM have the lowest income inequalities.

In 2006, the national poverty incidence was 32.9 percent (Table 9). Poverty incidence is highest in ARMM where over 3 out of 5 persons were poor. This is followed by MIMAROPA, CARAGA and Bicol where over half of the population is poor. Eastern Visayas Zamboanga Peninsula, Northern Mindanao had poverty rates between 41 and 49 percent. Meanwhile, poverty incidence in Cordillera, Ilocos, Western Visayas, Central Visayas, and Davao ranged from 33 to 39 percent. Among the regions with the lowest poverty rates are Central Luzon, CALABARZON, and Cagayan Valley with poverty rates of 21 to 26 percent. The incidence of poverty is lowest in NCR where only 1 person in 10 is poor.

Table 9: Inequality and Poverty Indicators

Region	Gini 2006	Land Ownership (%)	Poverty Incidence 2006	Change 2003-2006	Income Gap	Poverty Gap	Severity of Poverty
Philippines	0.46	30	32.9	2.9	28.8	7.7	3.1
NCR	0.40	17	10.4	3.5	21.6	1.5	0.5
Cordillera	0.43	55	34.5	2.3	32.1	9.3	4.0
I - Ilocos	0.39	35	32.7	2.5	25.2	6.6	2.5
II - Cagayan Valley	0.44	50	25.5	1.0	23.5	4.8	1.6
III - Central Luzon	0.35	23	20.7	3.2	23.4	3.9	1.4
IVA - CALABARZON	0.40		20.9	2.5	24.5	4.1	1.5
IVB - MIMAROPA	0.44		52.7	4.6	32.5	14.2	6.2
V - Bicol	0.47	28	51.1	2.6	30.1	12.6	5.1
VI - Western Visayas	0.44	24	38.6	-0.6	26.6	8.2	3.1
VII - Central Visayas	0.47	30	35.4	7.1	29.5	8.9	3.7
VIII - Eastern Visayas	0.46	35	48.5	5.5	30.9	12.6	5.3
IX - Zamboanga Peninsula	0.52	41	45.3	-3.9	35.7	14.3	6.8
X - Northern Mindanao	0.48	37	43.1	-0.9	33.4	12.1	5.3
XI - Davao	0.46	36	36.6	1.9	30	9.2	3.7
XII - SOCCSKSARGEN	0.48	44	40.8	2.4	28.1	9.5	3.7
XIII - Caraga	0.43	42	52.6	-1.4	34.4	15.6	7.0
ARMM	0.36	49	61.8	9.0	29.3	16.2	6.4

Source / of basic data: NSCB, NSO

Poverty incidence has increased between 2003 and 2006, despite remarkable growth over this period. The increase in poverty has been largest in ARMM at 9 percentage points, followed by Central Visayas (7.1 percent), Eastern Visayas (5.5 percent) and MIMAROPA (4.4 percent). In most other regions, the proportion of poor has increased between 2 to 3.5 percent. Poverty has decreased only in four regions with Zamboanga having the biggest decline (3.9 percent). CARAGA, Northern Mindanao and Western Visayas have only modest poverty reduction rates.

Income inequality may be related to the distribution of assets, especially land and human capital. Inequality is strongly negatively correlated with elementary participation. It is also negatively associated with functional literacy rate, secondary participation and tertiary participation, albeit weakly. However, it is positively correlated with simple literacy and land ownership. Regressing income inequality on school participation, literacy and land ownership reveals that inequality decreases with the increase in elementary participation and

functional literacy rate but increases with the increase in simple literacy, holding secondary and tertiary participation and land ownership constant. As elementary participation increases by 1 percentage point, income inequality decreases by 1.2 percentage points. A 1 percentage point increase in functional literacy decreases inequality by 0.8 percentage point. On the other hand, a growth in simple literacy increases by 1 percentage point raises inequality by 1.2 percentage points.

Poverty is also dependent on human and physical assets. Poverty incidence in 2003 is highly negatively correlated with secondary participation, functional literacy, per capita income, elementary participation, tertiary participation and simple literacy. It is moderately positively correlated with income inequality and surprisingly land ownership. Multiple regression reveals that poverty depends on per capita regional income, the distribution of income and tertiary participation. As regional per capita income increases by 1 percent, poverty decreases by 24 percentage points. At the provincial level, poverty decreases by 5.9 percentage points for every 10 percent increase in provincial per capita income. As inequality decreases by 1 percentage point, poverty incidence decreases by 2.3 percentage points. On the other hand, poverty incidence is positively related to tertiary participation. Poverty incidence in 2006 remains dependent on per capita income. However, inequality and tertiary participation have become insignificant. On the other hand, land ownership has become significant, with a 1 percentage point increase in land ownership decreasing poverty by 1.7 percent.

E. Sustainable Development

To analyze sustainability across regions, adjusted net savings are estimated across regions. The sizes of forest land and forest cover are also analyzed. Data for these indicators are shown in Table 10. The table shows that among regions, Cordillera has the greatest forest land, a little over 80 percent of its total land area. However only about 37 percent of forest lands has forest cover. Over 70 percent of CARAGA's area is forest land, but forest cover is only 36 percent. Cagayan Valley, MIMAROPA, SOCCSKSARGEN and Davao have forest lands of around 60 to 64 percent of their total land areas. The first two have the highest forest cover, over 60 percent. Forest covers for the latter two are only 37 percent and 25 percent, respectively. For ARMM, Northern Mindanao, Zamboanga Peninsula and Eastern Visayas, forest land constitutes about 52 to 53 percent of total land with forest covers ranging from 20 to 43 percent. Among the regions with smallest forest lands are Ilocos, CALABARZON, Bicol, Western and Central Visayas, only around one-third, with forest cover equally small. NCR has the smallest forest land area of all (only 24 percent) and smaller forest cover still (13 percent).

Analyzing regional wealth, it is clear from the outset that development in some regions is not sustainable, owing to negative net savings. Net savings are negative for Ilocos, Cagayan Valley, Central Luzon, Bicol, Eastern Visayas, Caraga and ARMM. Simply put, these regions have been spending more than they produced. Although most regions have low rates of forest depletion (less than 1 percent), forest depletion in Caraga is very high at over 11 percent, raising its dissaving further. On the other hand, although MIMAROPA has a positive net saving, the extensive natural resource depletion based on mining and quarrying wiped out its limited saving as well as its human capital investment. Mineral depletion in Cordillera is also high but its huge net saving has allowed it to enjoy a positive adjusted net saving. Mining and quarrying in Bicol and Davao constitute around one-twentieth of regional output. For Western Visayas and Caraga, it is about 3 percent. Mineral depletion in the rest of the regions is less than 1 percent of regional income. Particulate matter is highest

in Ilocos aggravating its already negative net saving. This is followed by Western Visayas where particulate matter offset an already low net saving. Education spending in Bicol, Eastern Visayas, Cagayan Valley, Caraga and Ilocos are among the highest but these are not enough to offset their huge negative net savings. In Zamboanga, the significant amount of education spending helped to boost a positive albeit modest net saving. Ultimately, only 8 out of 17 regions have positive adjusted net saving. Northern Mindanao has the largest adjusted net saving at 23 percent. Central Visayas, Calabarzon, and Cordillera follow with adjusted net savings of 16 to 17 percent. Zamboanga, Davao, SOCCSKSARGEN and NCR have modest positive adjusted net savings. The rest have negative adjusted net savings, mostly over one-third of regional output. Ilocos has largest dissaving (72 percent), followed by Cagayan Valley (55 percent), Caraga (55 percent) and Bicol (52 percent).

Environmental indicators are related to other development outcomes. However, per capita income is not related to the size of forest land nor of the forest cover. Interestingly, poverty is positively related to forestland. This suggests that the larger the proportion of land classified as forest, the less land people can use for productive purposes, especially with a growing population. Controlling for population, however, the size of forest land does not affect poverty. Forest depletion does not seem to be related to revenue as well as spending among LGUs. This may be because forestlands crossing local boundaries are managed by provincial / regional bodies. It may also be that rents from forest depletion are poorly captured by the local government tax system. Mineral depletion on the other hand is positively related to the IRA. Local governments that are heavily dependent on the IRA are more likely to open their areas to mining concessions. This should increase their revenues from non-IRA sources, particularly local taxes. Interestingly, there is no relationship between mineral depletion and local taxes. Either mining and quarrying charges are a small proportion of local taxes, or mining concessions do not pay the right taxes, or mining and quarrying charges find their way to coffers other than those of local governments. Recent developments in Pampanga revealed that quarrying charges can amount to a huge sum (Orejas, 2008); this rules out the first two possibilities. Air pollution as measured by particulate matter and carbon monoxide may be related to economic activity. However, regressing particulate matter and carbon monoxide on gross domestic product reveals no such relationship. Education spending on the other hand is negatively related to functional literacy. It seems that education spending is finally addressing the disparity in functional literacy. However, education spending is positively related to elementary participation. The allocation of education spending needs further improvement in addressing education inequality.

Table 10: Adjusted Net Saving

	Forest land 2003 (%)	Forest Cover 2003 (%)	Net Domestic Saving	Forest Depletion	Mineral Depletion	Particulate Matter	Carbon Monoxide	Education Spending	Adjusted Net Saving
Philippines	52.6	40.6	-2.0	0.21	1.7	0.30	0.6	2.4	-2.3
NCR	24.2	13.4	3.3	0.00		0.06	0.5	0.8	3.5
CAR	80.6	43.2	24.2	0.02	10.7	0.04	0.2	2.6	15.8
I - Ilocos	36.8	32.9	-73.5	0.03	0.7	1.89	0.8	5.0	-71.9
II - Cagayan Valley	63.8	61.4	-58.8	0.05	0.4	0.13	0.8	5.4	-54.7
III - Central Luzon	43.9	53.3	-19.7	0.01	0.1	0.14	0.8	2.6	-18.1
IVA - CALABARZON	35.2	39.1	15.3	0.00	0.5	0.22	0.1	1.7	16.2
IVB - MIMAROPA	63.6	60.9	1.9	0.00	20.1	0.00	0.0	3.5	-14.7
V - Bicol	30.7	20.4	-53.1	0.00	4.8	0.07	0.4	6.5	-51.9
VI - W. Visayas	29.9	34.9	1.5	0.08	3.2	1.68	0.6	3.2	-0.8
VII - C. Visayas	35.3	9.6	17.0	0.06	0.8	0.16	0.8	2.0	17.1
VIII - E. Visayas	52.2	43.0	-42.4	0.08	0.8	0.73	0.4	5.9	-38.5
IX - Zamboanga	52.3	20.1	5.3	0.30	1.0	0.07	0.6	4.3	7.6
X - N. Mindanao	53.1	42.0	22.5	0.41	0.6	0.62	0.4	2.2	22.6
XI - Davao	60.2	25.5	10.4	0.71	4.7	0.08	0.4	2.1	6.6
XII - SOCCSKSARGEN	62.0	37.0	1.4	0.23	0.1	0.05	0.4	3.4	4.1
XIII - Caraga	71.1	35.7	-45.3	11.08	2.7	0.06	0.7	5.3	-54.5
ARMM	53.2	33.8	-64.5						

Source (of basic data): Philippine Forestry Statistics - FMB n.d., 2007 Philippine Statistical Yearbook - NSCB 2007, Compendium of Philippine Environment Statistics 2006 – NSCB 2006, Budget of Expenditures and Sources of Financing FY 2005, DBM 2005.

F. Industrial Clustering and Small and Medium Enterprise Development

The concentration of economic activity in Manila and its emergence as the industrial center can be traced to the import substitution policy in the post World War II period (Pernia, Paderanga and Hermoso 1983, as cited in Tecson 2007). However, the trade reforms that started in the 1980s gave way to the dispersion of economic activity. This was supported by a fiscal policy promoting industrial dispersal, including the ban on new factories within Manila in 1973-77, the integrated area development plan in 1974 and the promotion of dynamic cities in 1983-1987. In 1986-92, regional agro-industrial centers were promoted and in 1991, the landmark Local Government Code was legislated. In 1992-98, a “location-specific approach to agro-industrial development” was adopted. The present administration is promoting the “formation of nine regional groups cutting across administrative regional boundaries”. In light of this, Tecson (2007) analyzed the geographic concentration of manufacturing activity across regions from 1983 to 2000. She found that although the dominance of NCR has declined and manufacturing has spread to the Visayas, it has been increasingly concentrated in Luzon, leaving Mindanao behind.

Using industrial location quotients, Tecson (2007) analyzes the concentration of resource-based, traditional, and non-traditional industries across regions. She found high and increasing concentrations of resource-based industries in many regions, especially in Mindanao as well as in the Visayas. These industries are “sugar in Region VI; coconut oil and other coconut products in Regions IX and X; tobacco products in Region I; wood and wood products as well as bamboo and rattan products excluding furniture in Region XI; and rubber products and cement in Region XII.” As for traditional manufactures, Region III appears to be concentrating or specializing in (unskilled) labor-intensive industries like spinning and weaving, embroidered fabrics, custom tailoring and dress-making.” Other regions concentrate on the following: “jewelry and related articles in Region I, ships and boats in Region VI and VII; special purpose machinery in Region II; other fabricated metal products and metalworking services in Region X; and basic steel in Region XII.” Non-traditional industries are only concentrated in four regions: “semiconductor devices, office accounting and computing machinery, other electrical equipment, motor vehicle parts, motor vehicle bodies and general purpose machinery” in NCR and Region IV, “accumulators, primary cells and batteries, TV and radio receivers, and aircraft and spacecraft” in NCR and Region VII, “insulated wires and cables” in Region IV and Region VII, “medical appliances and optical appliances” in Region VII, and sporting goods in Regions III and VII.

Although the share of NCR to foreign direct investments has decreased from 1988 to 2000, FDIs are still concentrated in Luzon especially in Southern Tagalog (Tecson 2007). Export Processing Zones (EPZs) and Special Economic Zones (SEZs) are also concentrated in Luzon, further funneling FDI away from Visayas and Mindanao as these FDI enter through these zones. Foreign investors are especially drawn to Luzon because of the superior infrastructure. For instance, “Subic Bay Freeport and Clark Freeport have world-class international airports”. Calabarzon is favored due to the relatively low incidence of transport failures and power outages, the shorter time required to obtain telephone and electrical connection, and shorter clearing time for exports.

Notwithstanding the locational opportunities offered by EPZs and SEZs, there seems to be limited clustering of related manufacturing activities. Studying the case of the hard disk drive (HDD) industry, Tecson (1997, as cited in Tecson 2007) found “limited agglomeration economies in terms of collaborative efforts among clustered producers in the HDD industry.” This confirms that “clusters may simply involve the spatial and sectoral agglomeration of similar firms, with or without the existence of the intensive subcontracting relationships or

collaboration that are often stressed in the literature as the essential feature of clusters (Beerepoort 2005, as cited in Tecson 2007).

In 2006, the administration unveiled its “Super Regions”, namely the North Luzon Agribusiness Quadrangle (NLAQ), the Luzon Urban Beltway, Central Philippines, Mindanao, and the Cyberservices Corridor. The NLAQ aims to make agribusiness investments in Cordillera, Ilocos and Cagayan valley to ensure affordable food supply. The Metro Luzon Urban Beltway which spans most of Central Luzon, Metro Manila, Calabarzon, Mindoro and Marinduque aims to make the region “a globally competitive urban, industrial and services center”. Central Philippines includes “Palawan and Romblon, the Visayas and Bicol, plus the northern Mindanao islands of Camiguin, Siargao and Dapitan” and aims to make investments for tourism development. The Mindanao super region involves “agribusiness investments in the south”. The Cyber Corridor which runs across super regions from Baguio to Cebu to Davao aims to “boost telecommunications, technology and education.” (Macapagal-Arroyo 2006)

The government is also promoting industrial clustering approach with the One Town, One Product (OTOP) Program being implemented through the Department of Trade and Industry. The program aims to assist MSMEs “through a convergence of services by LGUs, NGAs and private sector in product/design development, skills and entrepreneurial training, marketing assistance and introduction of appropriate technologies.” (National Economic and Development Authority 2004)

Table 11 shows the numbers of micro, small and medium enterprises and employed in 2003. NCR has the largest share of micro, small and especially medium enterprises at 22 percent, 42 percent and 47 percent, respectively. This is followed by Calabarzon with 15 percent, 11 percent, and 14 percent share in total micro, small and medium enterprises, respectively. Central Luzon has the third largest share in micro and small enterprises while Central Visayas has the third largest share in medium enterprises and fourth largest share in small enterprises. Ilocos has the fourth largest share in micro enterprises. Western Visayas and Davao also have respectable share of MSMEs. Among the regions with low shares, ARMM has the lowest; it shares to total micro, small, and medium enterprises are only 1.1 percent, 0.4 percent, and 0.4, respectively. The distribution of employment in MSMEs generally follows the shares of enterprises. It is also interesting to determine the share of MSMEs to total regional employment. The share of MSME employment is highest in NCR at 32 percent. In the rest of the regions, employment in MSMEs is less 12 percent of total regional employment. In Ilocos, Central Luzon, Central Visayas and Davao, MSME employment ranges from 10 to 12 percent. In Cordillera, Cagayan Valley, Bicol Western Visayas, Eastern Visayas, Northern Mindanao and Caraga, employment in MSMEs is between 5 to 9 percent. MSME employment is lowest in ARMM, only 3.1 percent of total regional employment.

Development outcomes are also related to enterprise development. The number of MSMEs is related, in simple linear regression, variously to elementary participation, secondary participation, simple literacy and functional literacy. However, no indicator of human capital is significant in a multiple regression. This may be due to the interrelations among these variables. Employment in MSMEs is also related to human capital including tertiary participation in simple regressions but not in a multiple regression. Per capita regional income is also related to MSMEs. Per capita income increases with the number of MSMEs. However, this relationship disappears when investment per worker is considered. MSMEs increase incomes only in as much as they allow investments. On the other hand, poverty incidence decreases as employment in MSMEs increases. As the proportion of employment in MSMEs increases by 1 percentage point, poverty decreases by 1.6 percentage points.

Table 11: Micro, Small and Medium Enterprises and Employment (2003)

REGION	Number of Establishments				Employment				% of Regional
	Micro	Small	Medium	Total	Micro	Small	Medium	Total	
Philippines	743,628	60,785	2,922	807,335	2,152,105	1,321,436	403,828	3,877,369	12.3
NCR	166864	25804	1371	194,039	545027	589858	188066	1,322,951	31.6
CAR	13472	694	27	14,193	35231	13888	3713	52,832	8.7
I - Ilocos	45949	2071	59	48,079	119540	39805	7927	167,272	10.1
II - Cagayan Valley	23980	906	24	24,910	66967	17689	3298	87,954	7.1
III - Central Luzon	83370	5119	199	88,688	236199	103306	27376	366,881	11.7
IV					365195	168123	60360	593,678	
IVA - CALABARZON	109177	6679	406	116,262					
IVB - MIMAROPA	24952	1212	22	26,186					
V - Bicol	29313	1495	55	30,863	82729	30450	7367	120,546	6.4
VI - Western Visayas	42462	3040	151	45,653	123331	65565	21064	209,960	7.8
VII - Central Visayas	44526	4226	226	48,978	128800	94821	31536	255,157	11.7
VIII - Eastern Visayas	19951	1089	42	21,082	58467	21484	5685	85,636	5.3
IX - Zamboanga Peninsula	26073	1297	50	27,420	68127	27280	7032	102,439	8.7
X - Northern Mindanao	30794	2114	87	32,995	86806	42833	12289	141,928	8.5
XI - Davao	32815	2751	123	35,689	94842	59034	17007	170,883	11.0
XII - SOCCSKSARGEN	26935	1289	47	28,271	76392	27492	6591	110,475	8.0
XIII - Caraga	15102	755	21	15,878	41300	14809	3060	59,169	6.3
ARMM	7893	244	12	8,149	23152	4999	1457	29,608	3.1

Source (of basic data): Small and Medium Enterprises Statistical Report, DTI 2005

G. Rural Nonfarm Economy

The share of nonfarm employment to total rural employment has risen from 35 percent to 41 percent between 1983 and 2003 (Estudillo, Sonobe, & Otsuka, 2007). The greater profitability of nonfarm activities is believed to be the reason for the movement of labor from agriculture. Younger household members and those with higher education engaging more and more in non-agricultural activities (Hayami and Kikuchi 2000, as cited in Estudillo, Sonobe and Otsuka 2007). Engagement in nonfarm activities had become a chief source of income and had made income distribution more equitable (Estudillo, Quisumbing and Otsuka 2001, Estudillo, Sawada and Otsuka 2004, Hayami and Kikuchi 2000, as cited in Estudillo, Sonobe and Otsuka 2007).

Table 12 shows rural nonfarm income and its distribution in 2003. Rural nonfarm income is highest in CALABARZON and Central Luzon at 53 percent. In Ilocos, MIMAROPA, Central Visayas, Zamboanga Peninsula, Davao and Caraga, nonfarm income accounts for 40 to 49 percent of rural income. Nonfarm income is among the lowest in Cordillera, Cagayan Valley, Western Visayas and SOCCSKSARGEN. ARMM has the lowest rural nonfarm income, only 31 percent. Nonfarm wages and salaries comprise the largest share of rural nonfarm income. The relative size of nonfarm wages and salaries across regions follows the relative size of nonfarm income, with Central Luzon and CALABARZON also having the largest nonfarm wages and salaries.

Across enterprises, trade has the largest share of nonfarm entrepreneurial income at 54 percent. This is followed by transportation at 22 percent, manufacturing (10 percent) and Community, Social and other services (8 percent). Across regions, trade has the lion's share in nonfarm entrepreneurial income. ARMM has the highest share of trade to nonfarm enterprise at 68 percent while Central Visayas has the smallest share of trade at 46 percent. Also for all regions, transportation has the second largest share in nonfarm entrepreneurial income, averaging 22 percent. Central Luzon has the highest share of transportation at 29 percent while Zamboanga Peninsula has the smallest, only 7 percent. Whereas trade and transportation have the largest and second largest shares across regions, respectively, the third most important rural nonfarm enterprise varies across regions. Manufacturing is the third most important nonfarm enterprise in CALABARZON, Bicol, Central Visayas, Eastern Visayas, Zamboanga Peninsula, Northern Mindanao, Davao and ARMM. In Ilocos, Central Luzon, Western Visayas, and SOCCSKSARGEN, community, social and other services is the third most important nonfarm enterprise while for Cordillera and Cagayan Valley, it is construction. Mining is the third most important rural nonfarm enterprise in Caraga. Surprisingly, mining is not a major enterprise in Cordillera and MIMAROPA.

Development outcomes may be related to nonfarm incomes. For instance, per capita income in 2006 is positively related to the proportion of nonfarm incomes (for both urban and rural areas) for the same year, particularly nonfarm wages and salaries. Regions with higher nonfarm wages and salaries have higher per capita incomes. Poverty incidence in 2006 is also related to nonfarm income. Regional poverty incidence decreases as nonfarm incomes, particularly nonfarm wages and salaries increase. Unfortunately, we cannot distinguish the particular effect for rural areas due to lack of disaggregated 2006 data. For 2003, however, rural poverty is not affected by rural nonfarm incomes. Aggregate income inequality is also not affected by nonfarm incomes.

Table 12: Non-farm wages and salaries and nonfarm entrepreneurial income (% of total income) and distribution

Region	Nonfarm Wages and Salaries	Nonfarm Entrep. Income	Trade	Manufacturing	Community, Social etc. Services	Transportation, Storage Services	Mining and Quarrying	Construction
Philippines	31.0	12.6	54.1	9.5	8.4	22.2	1.2	2.0
Cordillera	27.8	10.6	51.9	5.7	5.8	24.8	0.6	7.4
1 - Ilocos	31.9	12.7	52.3	8.5	10.8	25.7	0.7	0.6
2 - Cagayan Valley	23.9	10.1	48.3	7.6	5.5	19.6	0.6	15.6
3 - Central Luzon	38.9	13.6	55.1	5.5	8.3	28.7	0.0	0.6
4A - CALABARZON	37.5	15.2	51.4	12.1	10.1	23.1	0.3	0.5
4B - MIMAROPA	30.6	12.1	53.2	9.2	8.1	18.9	0.5	0.7
5 - Bicol	27.8	12.5	51.3	11.8	11.4	17.1	2.7	3.2
6 - Western Visayas	28.8	10.4	56.8	10.0	11.3	18.9	0.4	0.2
7 - Central Visayas	35.7	12.2	46.2	15.2	7.3	25.0	1.0	2.4
8 - Eastern Visayas	29.1	13.5	59.4	12.5	7.0	17.2	0.4	1.9
9 - Zamboanga Peninsula	33.9	12.5	57.3	10.3	8.8	16.8	1.7	1.1
10 - Northern Mindanao	32.4	10.8	53.6	13.2	7.5	24.9	0.1	0.1
11 - Davao	27.5	14.1	53.4	8.9	5.1	19.1	6.4	1.5
12 - SOCCKSARGEN	23.1	10.7	57.4	6.6	10.0	20.7	0.0	3.0
CARAGA	37.5	11.5	49.6	7.9	8.5	20.9	9.5	1.2
ARMM	16.8	14.4	68.1	2.9	1.1	26.4	0.0	1.0

Source of basic data: 2003 FIES, NSO

H. Institutional Development

An important institutional development effort relative to local development is decentralization. However, Manasan and Chatterjee (2003, as cited by Manasan, 2007) argue that decentralization has no marked impact on equity across regions. The national government continued to finance devolved programs such as on health and school buildings. In fact, the budgets of national agencies have increased compared to the local governments' internal revenue allotment in 1996-1998. On the other hand, the share of LGUs to total government spending increased in 1999-2003 due to the decline in the national government's revenues. However, the share of LGUs in social welfare spending on decreased. Manasan (2007) argues that the revenue powers of local governments are mismatched with their spending obligations. Notwithstanding the taxing powers bestowed to LGUs by the local government code, local governments have low autonomy in taxation. LGUs are highly dependent on the IRA but this is becoming less sufficient. The IRA has become a disincentive to local tax generation. On the other hand, local taxes are also dependent on the incomes of constituents. This suggests that wealthier regions can earn more taxes and spend more on social services, potentially widening regional disparities. LGUs' spending depends on their revenues. Health spending among provinces has been largely dependent on the IRA. On the other hand, that for cities relied also on their own revenues. Education spending for both provinces and cities depends mostly on own-source revenues while their infrastructure spending depends on both IRA and own-source revenues.

Capuno (2005) explains that many believe that the "persistent imbalances in local development—across and within regions... are due to the less than prudent exercise of the devolved powers and responsibilities, hence, the low quality of local governance." With decentralization, there have been innovations in local service delivery and financing, and participation has increased. However, innovation has spread only slowly and participation was short of being genuine. The uneven growth across regions may be due in part to differences in the quality of local governance. Moreover, initial economic conditions influence the acceptable quality of local governance. For instance, patronage is accepted in poor provinces.

Although there are various forces affecting local development, local governments control some of these factors and influence development as much as the national government does. Moreover, the decentralization may have improved the quality of local governance as well as economic growth as evident in best practices. On the other hand, there are also cases of corruption, incompetence, and utter waste of public resources (Capuno 2005). Capuno (2005) suggests that the slow regional development over the past two decades is due in part to the limited and poor quality of local public services, which are in turn, due to weak local governance mechanisms and poor establishment of consultative mechanisms and other systems under the local government code (LGC).

Since 1992, there has been an abundance of proposed measures for the quality of local governance (Capuno 2005). These indicator systems include the Department of Interior and Local Government (DILG)'s local productivity and performance measurement system (LPPMS), the governance quality index (GQI), NSCB's good governance index (GGI), Department of Trade and Industry (DTI) and Asian Institute of Management (AIM)'s Philippine cities competitiveness ranking, and the Philippine Center for Policy Studies' governance for local development (GOFORDEV) index.

The GQI is anchored on three strategic objectives: (1) optimized resource support for human/social development concerns; (2) enhanced effectiveness/efficiency in social service delivery; and (3) accountability systems developed and installed. Each objective is broken

down into component-optimized resource support: revenue generation, revenue use, and adoption of systems to sustain revenue generation and utilization; effectiveness/efficiency in social service delivery: beneficiaries satisfaction with social services delivered; accountability: financial accountability systems developed and implemented, and micro-level accountability systems developed and implemented (Manasan, Gonzales and Gaffud 1999)

Consistent with proposed measures of governance, we determine the performance of different regions in terms of several indicators. Table 13 shows the average shares of various revenues sources and distribution of spending of local governments across regions for 2003-2007. Except NCR, in all regions, local governments rely mainly on the internal revenue allotment. ARMM relies almost entirely on the IRA. In CAR, Cagayan Valley, MIMAROPA, Bicol, Eastern Visayas, Zamboanga Peninsula, SOCCSKSARGEN, and CARAGA, at least 80 percent of their revenues come from the IRA. Although Ilocos, Central Luzon, Calabarzon, Central Visayas, and Northern Mindanao still mainly rely on the IRA, they are somewhat less reliant on this than the former regions, with significantly higher revenues from non-tax sources and / or from local and real property taxes. The largest share of NCR's revenues comes from local taxes; real property and local taxes are also significant, each being almost as much as the IRA.

Across all regions, general services make up the largest share or most of spending averaging 46 percent. Social services make up 21 percent of spending followed closely by economic services at 19 percent. Among regions, NCR spends the most on social services at 30 percent, followed by CALABARZON (23 percent), Western Visayas (22.6 percent), CAR (21.1 percent) and Central Luzon (20.4 percent). Most other regions spend less than 20 percent on social services, but over 10 percent. ARMM local governments spend a measly 4.5 percent on social services. However, economic services make up one-third of ARMM's spending. In fact, the Mindanao regions all lead in economic services, spending a greater proportion on this than Luzon and Visayas regions.

The different revenue sources all depend on per capita regional income, both on aggregate and per capita basis. The allocation of spending in turn depends on the revenue generation. Aggregate economic spending depends positively on nontax revenues and negatively on local taxes (both at 10 percent significance level). On a per capita basis, economic spending depends on the IRA and nontax revenues. Total social spending also positively depends on nontax revenues. Social spending per capita only depends on the IRA.

To determine whether local government spending affects development outcomes, we first regress per capita regional income on economic spending per capita controlling for gross domestic investment per worker. The result shows that local government economic spending does not affect income. Per capita income is also unrelated to social spending. Poverty incidence, on the other hand, depends on social spending per capita but not on economic spending per capita. Functional literacy also depends on social spending. Meanwhile, maternal mortality is negatively related to economic spending per capita. Life expectancy, inequality, infant mortality and child mortality are not dependent on local government spending.

Table 13: Local Government Receipts and Expenditures, 2003-2007

REGION	Receipts					Expenditures			
	Internal Revenue Allotment	Real Property Taxes	Local Taxes	Total Tax Revenue	Non-Tax Revenue	General Services	Economic Services	Social Services	Others
NCR	21.5	20.8	37.5	79.8	20.2	40.3	9.5	29.9	20.3
CAR	83.3	2.0	7.3	92.6	7.4	44.8	20.5	21.1	13.6
I	69.5	4.7	10.6	84.8	15.2	52.4	17.4	11.4	18.8
II	85.8	1.7	4.4	91.8	8.2	50.5	14.3	14.5	20.7
III	65.7	7.2	9.3	82.2	17.8	49.0	22.0	20.4	8.6
IV.A	50.9	14.5	15.3	80.8	19.2	47.3	21.6	23.0	8.0
IV.B	86.7	2.2	2.7	91.6	8.4	47.5	22.5	17.5	12.5
V	88.6	2.1	4.1	94.7	5.3	50.4	19.6	16.5	13.5
VI	82.9	5.0	5.8	93.7	6.3	44.1	19.8	22.6	13.6
VII	67.4	5.3	10.4	83.2	16.8	47.2	20.0	18.8	14.0
VIII	89.7	1.9	4.2	95.7	4.3	44.7	15.1	16.8	23.4
IX	83.6	1.6	4.2	89.3	10.7	47.4	28.5	19.1	5.0
X	72.2	5.4	6.1	83.7	16.3	43.7	27.4	17.4	11.6
XI	79.8	3.6	7.9	91.3	8.7	51.9	24.3	18.5	5.3
XII	85.1	3.4	3.9	92.4	7.6	43.1	25.3	16.1	15.5
ARMM	97.5	0.4	0.9	98.8	1.2	44.1	33.0	4.5	18.4
CARAGA	86.2	1.7	4.0	92.0	8.0	52.4	23.4	17.9	6.3
PHILIPPINES	64.2	8.5	13.6	86.3	13.7	46.2	19.0	20.9	13.9

Source of basic data: Budget and Expenditure Sources of Financing, DBM 2003-2007

V. The Role of Local Governments and Communities in Promoting Development

Development, in its various aspects, is not automatic or inevitable. Instead of economic growth, a country may experience recession due to reductions either in consumption, investment, or net exports. Income may also decrease due to a reduction in the supply of labor or the deterioration in the quality of labor/human capital. A general decline in incomes and employment would lead to greater poverty. Even if incomes do not decline, poverty may rise due to more uneven distribution of income. The pressure of population on natural resources and the environment may also threaten sustainability. Social capital may decline; people may lose their networks, value systems can break down. Criminality, lawlessness, and corruption may threaten the integrity of social institutions. On its own, the economy may not perform or function as efficiently as desired. In many cases, this is due to market failure, which exists when a good or service is either underprovided (or not at all) or overprovided. This happens when market power resides in a single seller (monopoly) or a few sellers (oligopoly), or when no markets operate due to information asymmetry, externalities, or when the product is a public good. When markets are not competitive, as in monopolies and oligopolies, producers enjoy profits even if goods and services are produced at lower amounts than can be produced in competitive markets. Consumers lose both from this lower output and from the higher price paid to producers. In addition, the economy loses what consumers would have been willing to pay more for additional amounts of goods and services (Nicholson 2005).

Information asymmetry is the uneven access to information between sellers and buyers. In the insurance market for instance, buyers may know more about the likelihood of unfavorable events for which they seek insurance and may even influence this likelihood. This may create a moral hazard problem where buyers raise this likelihood or an adverse selection problem where the insurance attracts more high-risk buyers (Nicholson 2005). In both cases, sellers would lose out on insurance payments and may opt not to sell at all. In the absence of markets, governments can provide insurance for such events as unemployment, crop failure, poverty, etc.

Public goods are goods for which consumption is non-rival and non-excludable. Benefits from public goods can be shared by more people with no additional costs making them non-rival. It is also difficult or impossible to prevent others from consuming the good. Ideally, those who share in the benefits of public goods should also share in the cost of providing these according to their respective valuation of the benefits. Determining the value of these benefits is difficult and people may not reveal their true valuation as they cannot be excluded from the benefits anyway (referred to as the free-rider problem). Examples of public goods are farm-to-market roads; dengue fumigation and malaria control; and public safety. Left to the market, these goods and services would be undersupplied because few people may be willing to pay for these as others free-ride. The government takes it upon itself to provide these necessary public goods (Rosen 2005).

Externalities are benefits or costs to other people of activities of one person or firm that are not included in prices and costs of goods and services. These result in undersupply of goods and oversupply of 'bads'. Some examples of negative externalities

are pollution and natural resource exploitation. Although the use of natural resources, per se, does not create negative externalities, overexploitation typically does. The extraction of timber, for instance, costs more to society than the price paid by consumers or the cost incurred in its production. The difference may be seen as the cost of greater pollution or soil erosion resulting from fewer trees. With the market price lower than the actual social cost, consumers buy more making sellers produce more than what is socially optimal. To reduce production to the optimal level, government can impose a tax to cover the unaccounted social cost raising the price of timber and reducing demand and production (Nicholson 2005).

On the other hand, research and development is an example of positive externality. Firms invest on research and development to create new technologies and products. Other firms may benefit from these technologies when they are out in public. These firms, therefore, do not have the incentive to produce their own technology when they can free-ride on the investments of other firms. This discourages research and development efforts making innovations undersupplied. To encourage innovation, governments protect technologies and products through patents. Government can also provide incentives for research and development work (Mankiw 2003).

Even when markets exist and are efficient, government may still have a role in ensuring equitable distribution of resources. For instance, education increases social mobility. Health and sanitation are also basic needs that everybody should have. Government also has a role where markets are imperfect or missing such as in credit and health insurance.

What should be the role of local governments? Apart from overcoming market failure, the rationale for decentralized decision-making and the role of local governments are based on principles of efficiency, accountability, manageability, and autonomy (Shah and Shah 2006). Two principles that relate to efficiency are: governments closer to the people work better, and people should be able to choose the public services they like. Decision-making at the lowest level is most efficient. Responsibility depends on cost-effectiveness and extent of benefits and costs of the public service. The principle of fiscal equivalency states that the correspondence between political authority and the benefit of public service ensures efficiency as costs match the benefits. Similarly, the correspondence principle states that responsibility over public service should depend on who the consumers are. There may be overlapping spheres of influence and people can choose among these.

The decentralization theorem states that a public service should be delivered by the government unit with authority over the smallest geographic area where benefits and costs of a public service are contained. This has several bases: local governments know the interests of their constituents; local decision-making is responsive and promotes fiscal responsibility and efficiency especially with local financing of services; it removes unnecessary levels of authority; and it promotes competition and innovation across levels of government. Central provision may be justified when benefits/costs spillover outside the jurisdiction of local governments, when such is more cost-effective, and when administration and compliance costs are involved. Based on the subsidiarity principle, local governments should undertake the provision, financing, and regulation of public service, unless it is necessary for the national government to do so (Shah and Shah 2006).

In line with the typical sharing of responsibilities among levels of governments in unitary states (Shah and Shah 2006), the delineation of functions between the national (and regional) and local governments should be as follows: formulation of policy and development of standards is done at the national level; supervision of implementation is undertaken at the regional or provincial level; and provision of public service is done by local governments, metropolitan governments, or regional governments, depending on “economies of scale, economies of scope... and cost-benefit spillovers, proximity to beneficiaries, consumer preferences, and budgetary choices.” Production and distribution of public services can be public or private. Private sector participation can take different forms such as contracting, franchise operations, grants, vouchers, volunteers, community self-help activities, and private nonprofit organizations.

We now look into the specific roles of local governments in the various aspects of our development framework based on the foregoing principles, which guide the sharing of responsibilities among government bodies, international best practices, and in line with the LGC and the MTPDP.

A. Productivity and Economic Growth

Economic growth depends on factor productivity, which in turn depends on openness to trade and investments, adoption of international standards, and international partnerships (Austria 1998). Moreover, prices and research and development also affect productivity (Cororaton 2002).

Technical knowledge varies across countries and across people; between industrial and developing countries; between the poor and the nonpoor. Market information, for instance, on characteristics of products and sellers and buyers, are important for the efficient functioning of markets. These knowledge and information gaps provide the rationale for government action in knowledge creation and the provision of information (World Bank 1999). Government can do much to promote the acquisition, assimilation, and dissemination of knowledge.

To promote knowledge acquisition, government should encourage entry of foreign knowledge and create unavailable knowledge. To promote the entry of foreign knowledge, government should facilitate foreign trade, foreign investment, and technology licensing. To enhance the assimilation of knowledge, government should ensure universal elementary education and promote life-long learning. The latter may be done by encouraging private sector provision, with government setting regulatory standards. Subsidies may also be given to the poor.

To support the dissemination of knowledge, the government should develop regulatory institutions that would encourage competition and discourage monopolies. It should also privatize functions that the private sector can do well, as well as encourage private provision in rural areas, for instance, through competitive subsidies.

To address information gaps and facilitate the flow of information, the government should support the provision of information on quality of goods, services, and market players. In education, this involves accreditation of educational institutions for prospective students and certification of graduates relevant for employers. In the investment market, financial standards allow investors to evaluate firms in view of making investment decisions. The flow of product information can also be promoted by

strengthening the institutional framework for the protection of trademark. Government can also encourage self-revelation, peer evaluation, and independent verification of quality. Similarly, self-targeting can be used to identify beneficiaries of government programs such as rural public works.

Another way of facilitating the flow of information is by eliciting information from users and beneficiaries, such as the needs of the poor. This entails building their trust by using strategies which have been proven effective, such as participatory planning and implementation of projects and participatory budgeting.

In line with the MTPDP, local governments can provide support to innovative enterprises by providing assistance in project appraisal or start-up capital. Investors with new technologies can be encouraged to locate in the various regions with the development of infrastructure. Local governments should ensure that the needs of communities are incorporated in research, for instance, in agriculture and health. They should also coordinate technical and financial assistance for local research, especially in priority development areas. Local governments should likewise promote the labeling of quality local products for promotion in national and export markets.

Local governments should promote lifelong learning by facilitating the provision of training to community members in skills relevant for local industries. Higher level governments can give recognition to outstanding lower level governments in terms of mutually agreed development criteria that are regularly monitored. Local governments should facilitate the development of information and communication technology facilities in local communities. LGUs should take advantage of the higher budget for field extension work under the MTPDP by coordinating with sectoral agencies for the extension work needed in their locales. They should also pursue the establishment of extension centers in their areas. Provincial governments, in coordination with regional agencies, should facilitate the development of appropriate technology parks in their areas.

To promote the development of micro, small, and medium enterprises (MSMEs), local governments should collaborate with the national government, particularly with the Department of Science and Technology (DOST), in the implementation of the Small Enterprises Technology Upgrading Program (SET-UP) and the Technology Incubation for Commercialization Program (TECHNICOM). SET-UP aims “to encourage and assist SMEs to adopt technological innovations to improve their operations and thus boost their productivity and competitiveness” (DOST 2006). On the other hand, TECHNICOM gives various forms of assistance to research and development works that have high potential for enterprise spinoff, especially high-technology applications with commercial value (DOST 2003).

B. Infrastructure development

Infrastructure is a public good for which consumption is non-rival and benefits are non-excludable to a certain extent. Given this, people are likely to be willing to pay less than the benefit derived from infrastructure. A lower revealed demand reduces the amount produced than is necessary. Government can provide the necessary investments in infrastructure to complement private investment.

The kind of infrastructure determines the roles of different levels of government in the provision of these services. Local governments should provide water supply and

sanitation services because benefits from these accrue primarily at the local level. However, in cases of economies of scale, economies of scope, and externalities, regional or metropolitan-level provision may be necessary (Shah and Shah 2006). As facilitator, the government should ensure sustainable utilization of water resources through the control of pollution and wastage (Bosch et al. 2002).

Production and distribution may be assigned to the private sector for efficiency (Shah and Shah 2006). Direct government provision of water and sanitation has been proven to be generally inefficient. There are some cases of successful public provision in urban areas, but privatized supply is generally more efficient as it is driven by profit, regulated, and takes lessons from international experience. Private sector participation can be encouraged through competition. Another alternative is to devolve it to community organizations. The choice among public, community-based, and private provision should be based on efficiency, adequacy of financial resources, and technical and managerial capability (Bosch et al. 2002).

The benefits as well as the costs of roads, on the other hand, vary in scope, so responsibility should vary correspondingly. In any case, the private sector may also be involved in construction of roads (Shah and Shah 2006).

With regard to infrastructure, the LGC assigns water systems, sanitation services, local roads and bridges, and satellite or public market to the barangay. The municipality is assigned municipal infrastructure including municipal roads and bridges, elementary and secondary schools, health centers, communal irrigation, water system, drainage and sewerage, public markets, slaughterhouses, and municipal enterprises, among others. Meanwhile, the province is assigned provincial infrastructure, housing services, and provincial telecommunication, among others. The scope of services for cities includes those of municipalities and provinces plus communication and transportation.

In light of the foregoing, local governments have an important role in addressing the disparities in access to safe water and sanitation. In line with the MTPDP, local governments should increasingly take on water management. In this regard, they should allow proper pricing of water to ensure efficient use, but also ensure access to the poor. The MTPDP aims to provide potable water to the entire country by 2010. In line with this, LGUs with less than 50 percent of their constituencies having access to potable water supply can seek assistance from the national government for the provision of Level I/II water systems. Local governments should also monitor the safety of drinking water and be equipped in this.

As of 2002, only 80 percent of families have access to safe drinking water (NSO 2002). Llanto (2002) explains that an issue with regard to water supply is the piecemeal approach to its provision. This is one reason for the inadequate water supply particularly in rural areas. Water facility operators experience financial constraints, which hinder them from sustaining services. Apparently, water providers do not recoup the cost of their services so they are unable to maintain their facilities and services. This is despite the fact that consumers are willing to pay for safe and reliable water supply (World Bank 2000 cited in Llanto 2002). Related to this problem is the absence of an able and independent regulator that will set prices for water services and enforce water quality standard. To address the problem of water supply in localities, LGUs and communities have several options. One is provision by state-sanctioned private firms. In this case, local water resource boards may be set up in municipalities or provinces to ensure proper pricing for

water services and ensure the quality of drinking water. The National Water Resources Board should facilitate the organization and capability building of these local boards. Another option is to organize water users associations, which will manage the water system. This may entail lower administration costs but would require members' participation in operational activities.

With regard to sanitation, local governments should implement the integrated waste management system: segregation and collection at source, materials recovery facilities, recycling, and composting (NEDA 2004). Barangay roads, including farm-to-market roads, constitute 60 percent of the country's road network. Responsibility over barangay roads has been devolved to local governments. As with the national government, local governments can finance these roads through user-charges. In relation, the national government is also providing financial and technical assistance in the development of roads in Mindanao and other poor areas.

As for electricity, only 79.5 percent of households have access to electricity as of 2004. With the implementation of the Electric Power Industry Reform Act of 2001, access to electricity should rise. Under the Act, private distribution facilities, cooperatives and LGUs may distribute electricity. To allow private producers and cooperatives to supply electricity, they must be able to charge the true cost of transmission on top of cost of generation. On the other hand, LGUs may provide subsidies to allow access among the poor. Regulation, however, rests solely on the Energy Regulatory Commission.

Llanto (2002) noted that the national government, in its 2001–2004 MTPDP, bestows the primary role in infrastructure development to the private sector. This is to allow itself to focus on basic services and rural infrastructure not otherwise provided by the private sector. Llanto chronicles the Philippines' experience with regard to private participation in infrastructure development and describes various forms by which government has encouraged private participation. For instance, the government has privatized many hitherto government-owned and controlled corporations in telecommunications, water, and power, among others. It has also allowed for various modes of private participation such as the BOT scheme and its variants. Moreover, it has opened the market for infrastructure to competition.

To promote competition, Llanto (2002) argues that the government should ensure fairness and transparency. Where there are natural monopolies such as in energy distribution and transmission, the role of government is regulation. Thus, an independent and credible regulatory system shielded from politics is necessary. This allows balancing between the viability of private enterprise and public welfare. In encouraging private sector participation, however, the government should study proposals very well and prioritize projects given its limited fiscal resources. In particular, it must rationalize the provision of government guarantees as these may unnecessarily raise its contingent liabilities and threaten its fiscal stability. It must improve on risk-sharing arrangements, assigning risks to the party with the most information. Thus, it must assign market risks eventually to the private sector (e.g. through fall away clauses) and assume only political risks. Moreover, contingent liabilities have been proposed to be included in the government budget.

Apart from providing incentives to entice private participation, the government also has a role in ensuring the performance of private provision through regulation. For instance, it should ensure standards in water safety and regulate pricing for such basic

needs as water. It should also promote information, education, and communication on sanitation and other standards.

Thus, the key principles in government's role in infrastructure development are divestiture from activities more efficiently undertaken by the private sector, promotion of competition with transparency, regulation of monopolies, appropriate risk sharing between public and private sector, and independent regulation and tariff-setting.

C. Human development

As mentioned earlier, governments have a role in education and health in ensuring equitable distribution of resources, as education increases social mobility and health and sanitation are also basic needs. How then should these services be assigned across levels of government? Education and health services may be provided and administered either by local governments or by the national government (Shah and Shah 2006). In terms of cost-effectiveness, coordination efficiency and consumer sovereignty, elementary and secondary education are best provided by local governments. However, given that the benefits of education spill over to the larger community, the national government may provide it. For equity considerations, government itself (whether local or national) may produce these. However, for efficiency purposes, the production of these may be assigned to the private sector. Given the economies of scale and scope, the benefit-cost spill-over, and the budgetary decision involved, public health and hospital services are better provided by the national government. Actual provision of public health services should also be assigned to government while hospital services may be provided by the private sector on efficiency grounds.

1. Education

Developing countries normally experience three main challenges in basic education: broadening access, enhancing quality, and encouraging demand (Aoki et al. 2002). Broadening access involves reducing costs for new classrooms and teachers, effective targeting of areas with the greatest need, efficient utilization of available classrooms, encouraging quality private provision, and better management to reduce administrative costs, better teacher performance, and more effective planning and budgeting.

Local government and communities have a role in these, by providing local resources and community labor in construction of new classrooms, enlisting local teachers, and involving the communities in the supervision and management of schools (e.g., through the local education boards). Decentralizing management to the school level has also been observed to increase accountability especially with community supervision. Local governments and communities also have a role in encouraging school participation, for instance, through advocacy activities and in considering local activities in school calendars/facilities. Targeted incentives to children of poor households are also found to be effective (Aoki et al. 2002)

With returns to secondary and higher education accruing to individuals more than to society, the role of private provision is greater. Nevertheless, government can play an important role in encouraging participation e.g., encouraging private investments, providing incentives in view of the social returns, and targeted support to poor students such as scholarships and loans. Secondary education may include technical/vocational

education and training to enhance students' capabilities for employment and to respond to the needs of local industries.

The MTPDP identifies local governments among the partners of the Council for the Welfare of Children in the implementation of the early childhood education program together with DepEd, Department of Social Welfare and Development (DSWD), Department of Health (DOH), and nongovernment organizations (NGOs). The LGC also assigns social welfare services to barangays. The LGC gives responsibility over infrastructure development for elementary and secondary education to municipalities. Municipal governments therefore have an important role in filling the gap in the number of classrooms. However, the production of these may be delegated to the private sector. Among the possible sources of funds for the construction of classrooms identified in the MTPDP are the local governments' special education and general funds. With the school-based management program, local governments, together with the constituent stakeholders have a greater role in improving education in their respective areas. LGUs, for instance, can provide support to schools in the form of supplies and equipment and performance incentives to teachers/schools in their jurisdiction. However, caution should be taken with regard to DepEd's performance-based education budgeting as poor performance may in fact be due to the already limited budget.

A limited budget would be a typical reason for the LGUs' inability to fulfill their part in education. Apart from financing classroom construction from the IRA, local governments should explore other financing schemes. One possible option is demand-side financing where local governments or communities can mobilize community resources such as land, labor, and materials in the construction of classrooms (Patrinos and Ariasingam 1997).

Government subsidy in education is largely for basic education. Even with the subsidies for state universities and colleges (SUCs), students still face considerable costs to tertiary education. To help the poor cope with these, local governments should also support technical and vocational education, as well as training through grants to institutions and scholarships to poor students in their respective areas, in response to skill requirements of local industries. This ensures that LGUs address equity concerns in their localities as well as boost local economic development by addressing the demand of local industry. LGUs, through their extension agents, should also collaborate with training institutions in the training of community members in technical skills for livelihood improvements.

In line with the MTPDP's goal of expanding access to higher education to the poor and disadvantaged, local governments, especially the provinces, can provide targeted tertiary education subsidies (vouchers). In line with the goal of rationalizing the financing of higher education, the devolution of SUCs to the provincial government should be considered.

Local governments also have an important role in supporting adult education, especially when this is adapted to local needs such as farming technologies, health education, and enterprise development, as well as for the improvement of literacy and numeracy. With early childhood development normally based in the community, local governments, especially barangays, also have an important role. School-based health and nutrition services also encourage school participation.

2. Health

There is a great deal that government can do to improve the health status of its people, particularly the poor. It can alleviate the effect of poverty on health by providing 'financial protection' to the poor by reducing the costs of health goods and services, for instance, through health insurance and targeted subsidies. It can also provide better knowledge on and facilitate greater access to health services. It can further make health services respond to the particular needs of the poor. Moreover, it can enhance the quality of health services for the poor. There are three levels of government intervention in health: (1) macroeconomic level where the national budget for health is allocated; (2) health system level where reforms are carried out; and (3) service delivery level, where local government is normally involved and entails improving performance through people's participation in the management of local health facilities, health education and information campaigns, and participatory monitoring (Claeson et al. 2002). Access to health services may also be enhanced by improving infrastructure, encouraging provision by private businesses and civil society organizations, and enhancing public provision. Health services should be based on careful analysis of the actual health needs of the poor.

Health services may either be provided by local governments or the national government (Shah and Shah 2006). The allocation criteria for public health and hospital services, however, warrant metropolitan/regional provision. Moreover, although hospitals may be assigned to the private sector, public health should be undertaken solely by government.

Although the local code assigns health as one function of barangays, the scope of this responsibility is not explicit. Municipalities, on the other hand, are given specific mandates in primary health care, maternal and child care, communicable and non-communicable disease control services, as well as secondary and tertiary health services. Provinces cover hospitals and tertiary health services.

According to Lieberman, Capuno and Minh (2004), this sharing of responsibilities is generally consistent with efficiency principles. However, many local governments were unprepared for the administrative and financial requirements that came with the devolved functions. To help local governments adapt, the DOH provided technical assistance and grants. Moreover, public hospitals were allowed to collect user fees and sell drugs with a 30 percent mark-up. Still, hospital fees remained low relative to expenses making many hospitals poorly maintained, understaffed, or ill-equipped.

Health insurance coverage broadened between 1999 and 2003, with the proportion of the poor also increasing. However, with LGUs expected to share insurance premium with the national government, the rise in insurance membership may slow down. Decentralization was opposed by health workers themselves, so the DOH pushed for the *Magna Carta for Health Workers* to ensure their benefits. However, local government support for this seemed inadequate. To ensure the presence of health workers across the country, the DOH sent *Doctors to the Barrios*. As these were not permanent and to supplement existing local health workers, volunteer health workers were enlisted (Lieberman, Capuno and Minh 2004).

The local management of medicines is generally poor due to incapable or non-existent committees concerned, corruption in procurement, and limited supply network. To address this, the DOH formed an Essential Drug List and has been promoting generic

drugs. To facilitate the flow of information from local governments to the Department, the latter implemented a health management information system program, but was not continued. Instead, the DOH relies mainly on its representatives in LGUs to provide local information, especially alerts regarding epidemics. To promote quality health service, the DOH also provides incentives such as financial grants to health centers accredited for quality service (Lieberman, Capuno and Minh 2004).

With decentralization in the Philippines, it has been found that local government spending in health has increased between 1992 and 1998, in real terms and as a share of LGU resources (Schwartz, Guilkey and Racelis 2002). However, the share of resources spent on public health has decreased, with provincial LGUs taking on hospital services that cater to private health care. For cities and municipalities, on the other hand, the share of spending on public health services has not changed. Moreover, spending on public health has a weak impact on child immunization, although it has a strong impact on family planning.

Similarly, Lieberman, Capuno and Minh (2004) note that between 1997 and 2001, although the share of local government to total health expenditures increased, most of local spending went to personal care services. This explains the relative dissatisfaction with public health facilities compared to private clinics and traditional healers, as cited by a World Bank study. Nevertheless, there have been improvements in health outputs and outcomes after decentralization. Between 1985 and 2000, the proportion of births attended to by trained health personnel increased. Between 1990 and 2001, infant mortality rate went down from 45 to 29; under-five mortality declined from 66 to 38; and life expectancy at birth increased from 66 to 69.5.

To further improve local health service delivery, Lieberman, Capuno and Minh (2004) suggest that local governments rely more on locally-sourced funds, such as user fees. This would entail improvements in facilities and personnel capacities. On the other hand, DOH can provide matching grants for improved services.

Based on the foregoing problems, further action is necessary. For instance, support for health workers is important in improving local health services. To finance the necessary incentives for health workers, local governments can develop enterprises and channel business profits to social expenditures such as in health. Some successful public enterprises documented include renting out public space and public equipment for commercial activities (NEDA-ADB, 2005). To obtain inexpensive medicines, local governments should procure generic drugs and may set up drug stores that sell the same across their locality, ensuring economies of scale in the procurement of drugs. Public spending on personal care services can be reduced and that on public health increased if private health care services are charged higher fees, or in a socialized manner which charges higher-income patients more and the poor less. Private health care services that cater primarily to the better off can be left to the private sector.

D. Poverty reduction

Among the direct measures undertaken by various countries for poverty reduction are land reform, microcredit, and public employment schemes (Deolalikar et al. 2002). However, since land reform and microcredit are handled by the national government,

(although the latter through the private sector), local governments can only implement public employment schemes or rural public works.

Social services are also important means for poverty reduction as health and education enable the poor to utilize opportunities generated by growth (Deolalikar et al. 2002). In fact, the rationale for government in poverty reduction lies in the inequities in access to public services (Fozzard et al. 2002). Studies show that the poor tend to use lower levels of services more than higher ones (e.g., primary education and health care). Thus, primary education and health care are more pro-poor. Increasing budget allocations for primary services should therefore be a priority.

Poverty incidence and public spending are also likely to vary across regions and between rural and urban areas as a result of special support from government for certain regions considered as growth centers (Fozzard et al. 2002). However, a more equitable distribution of public spending is likely to be more successful for poverty reduction. Public services may be provided through regulation, taxation, and public spending.

Inequities in access to social services can also be reinforced by disparities in local government finance (Deolalikar et al. 2002). This calls for transfers from the national government. Informal payments also hinder the poor from using what would otherwise be free public services. Local governments should therefore discourage, even prohibit public service workers from accepting such payments. Good governance is also important in poverty reduction as it promotes transparency, accountability, and participation in decision-making. Local governments should endeavor to involve their constituents in public discussion of issues relating to their welfare and should make their decisions known to them. They should also clearly set out their goals and targets and ensure monitoring and evaluation of their performance. There should be a system of incentives for good performance and sanction for poor performance.

The provision of infrastructure, apart from addressing efficiency concerns as discussed in section V.B, should also reduce disparities and poverty. This can be done, for instance, in the provision of water and sanitation services where the government acts as facilitator and financier (Bosch et al. 2002). As facilitator, government should ensure that the poor are adequately served; where access to water requires consumer outlay, government should facilitate access to credit. Government can also support research and development to reduce costs and increase accessibility of water systems. Water pricing should also be regulated to ensure affordability to the poor. Viability may be ensured through cross-subsidies from higher charges for the richer consumers.

To promote the use of water and sanitation systems, government can enhance the supply of necessary inputs and services that reduce their costs; that is, develop the supply chain. When barangay (municipal) water and sanitation systems are not cost-effective, local governments may promote municipal (provincial/regional) level systems by facilitating arrangements across barangays (municipalities). In urban areas where network supply predominates but where the poor rely on other supply, access to the poor can be enhanced by allowing alternative systems to develop alongside network supply.

As financier, government normally subsidizes fixed and operating costs of water and sanitation systems. However, such subsidies tend to benefit the non-poor more as a significant portion end up with producers in the form of high capital costs, government personnel through corruption, and non-poor beneficiaries with consumption-based or

counterpart-conditional subsidies. Effective targeting in these aspects is crucial to effectively provide access to the poor.

E. Sustainable development

The use of natural resources entail costs to the public not accounted for in their market prices. With private costs lower than the true social costs, consumers demand more causing business firms to use more natural resources than is efficient and sustainable. For instance, the price of wood may be lower than its real cost, allowing logging companies to cut trees indiscriminately, eventually causing erosion and flooding. Unrestrained mining, on the other hand, causes siltation and subsidence, while unregulated use of fossil fuel causes air pollution. The depletion of these natural resources and the degradation of the environment threaten the welfare of future generations as measured by adjusted net savings. Therefore, the government plays a key role in regulating these activities and ensuring efficient and sustainable resource use. To limit these activities, the government should tax producers an amount equal to the difference between the social cost and the market price of these products, enough to discourage environmental damage or to compensate for environmental rehabilitation.

The provision and administration of services pertaining to natural resources and the environment may be assigned to local governments. Community parks may be maintained by local governments while regional parks are within the jurisdiction of regional governments. Community parks, however, may be assigned to the private sector for efficiency purposes. Responsibility over air and water pollution must be assigned to the regional government, given the economies of scale and coordination efficiency in administration, as well as the spillover of benefits and costs in the management of these. (Shah and Shah 2006)

The LGC assigns certain roles to local governments with regard to the environment such that barangays are responsible for solid waste collection. Municipalities, on the other hand, are responsible for solid waste disposal, environmental management, and tourism facilities. Provinces are responsible for environmental protection and tourism development. The local code also assigns various environmental taxing powers among the national and local governments. Local governments should enforce provincial taxation on quarrying activities and municipal fishery charges. Local governments at various levels should monitor these as well as mining and forestry activities in their areas to ensure that the proper taxes are collected and remitted. Local governments' share of the proceeds of resource / environmental taxes should be spent in a transparent and accountable manner. A system of monitoring and taxing air and water pollution should also be developed. The overall system for monitoring natural resource depletion and environmental degradation should be developed to allow measurement of national wealth (adjusted net saving).

In this regard and in line with the MTPDP, LGUs can do much in sustainably managing the environment and natural resources. Local governments can undertake community reforestation activities. To protect biodiversity, they can undertake information/education drives to raise consciousness on environmental protection. These can include biodiversity studies in collaboration with universities, and ecotourism. They

should also collaborate with the Department of Environment and Natural Resources (DENR) in the management of protected areas. With regard to air pollution, regional governments can promote the development and use of alternative sources of energy such as bio-fuel (e.g. coco bio-diesel). Mining can be a good source of income for local governments and their constituents, and can be a source of employment and a means of reducing poverty. However, its benefits must be weighed against its costs to the environment and its ability to sustain employment and income. To maintain their coastal and marine resources, local governments should monitor (and sanction) destructive fishing methods, pollution and siltation, and undertake planting of mangroves.

Local/regional parks may be maintained through the establishment/promotion of local management systems examples of which were presented during the 4th Development Policy Research Month. These include the adoption of a “social fence”, converting squatter into forest managers, joint watershed management between DENR and LGUs, and granting ownership of trees to planters. Several positive outcomes are common to these strategies, including reduced incidence of forest fires, timber poaching, and squatting; revival of mountain springs; and improved livelihood opportunities. The establishment of local management systems thus resulted in improved forest and water system conditions and decreased population pressure.

Box 1: Local government’s role in the coconut coir industry

The coconut coir industry is an example where interventions can focus on a cluster of similar enterprises. Local governments play important roles in the development of the industry by focusing on the key missing elements in the market. For instance, local governments can promote organizational/cooperative development to coordinate the activities of individuals to ensure the supply of raw materials required for efficient production. They can also facilitate the provision of infrastructure (farm-to-market roads) for the transport of raw materials and electricity necessary for the operation of equipment (e.g., decorticating machine). Where needed, local governments can likewise promote the market for credit to allow investments in facilities/equipment or provide tax incentives to promote these investments. Moreover, local governments can support related sectors such as the metal-works sector that produce equipment. They can also support skills training among community members e.g., in fiber processing and equipment operation and maintenance. LGUs can also assist in promoting product standards and in ensuring fair competition in the market. Finally, they can provide marketing support and coordinate with national government for export subsidy.

F. Industrial clustering and Small and Medium Enterprise development

A rationale for industrial policy is the diversification of production and employment accompanying the increase in income as observed by Imbs and Wacziarg (2003 cited in Rodrik 2004) across countries. This is in contrast with the theory of comparative advantage associating economic development and specialization. However, at high income levels, specialization resumes, revealing a U-shaped curve when product concentration is plotted against income. While some countries easily diversify to non-traditional products, it is not an automatic process as the entrepreneurship required may not be adequately supplied. This is due to information and coordination externalities (Rodrik 2004).

Rodrik (2004) explains that diversification necessitates exploration and adaptation of technologies, which entails costs. If the experiment fails to bear fruit, only the entrepreneur bears the costs. If it succeeds, everyone benefits. This explains why entrepreneurship is lacking in poor countries. The pattern of specialization is found to be based, not on comparative advantage, but on “self-discovery” and subsequent duplication. To address information externality, Rodrik suggests a “carrot-and-stick strategy” of subsidizing investments in nontraditional industries and performance requirements that discipline poor performance. There are likely to be failures considering the high social costs of subsidized investments, but these may be offset by the benefits from successful ventures. Government need not pick winners but should identify the losers and discontinue subsidy.

New lucrative industries may fail to establish if forward and backward linkages are not developed. Rodrik calls this the problem of coordination, which occurs when production demonstrates increasing returns to scale and some inputs are difficult to obtain. This may be addressed through a “big push” or a “cluster approach” by coordinating the activities of various businesses. Well-organized industries would coordinate themselves while new industries that are unorganized would need government assistance. Unlike information externalities, coordination externalities may not require actual subsidies, perhaps only guarantees, as investments are certain to be profitable if made simultaneously. Clusters can develop in all industries although many industries can function without clusters. Thus, support should be provided, not to particular sectors, but to activities/technologies with scale economies.

Rodrik (2004) presents a strategy for industrial development that is market-driven but with government playing key coordination functions. Industrial policy is concerned about forging a “strategic collaboration” between business and government in order to address obstacles. As Rodrik illustrates, poor human capital may not be due to inadequate infrastructure, but to low demand for education. Similarly, inadequate technological innovation may be due to poor demand. What institutional set-up is necessary for the foregoing industrial policy? First, the government needs to determine from the private sector the problems and prospects for the industry. Second, the government must strike a balance between independence from and reliance on the private sector.

Industrial policy is primarily the role of national government (Shah and Shah 2006). This is to prevent policies in one region that are inimical to the interests of other

regions. However, there is scope for local government provision in related areas such as foreign direct investment, where local infrastructure is crucial. In relation to industrial policy, the LGC assigns barangays as local information centers, assigns information services relating to investments and marketing to municipalities, and assigns industrial research and development and investment support to provinces.

In line with the MTPDP, local governments can promote industrial clustering and assist in the development of SMEs by supporting the One Town One Product (OTOP) program of the Department of Trade and Industry. The OTOP, which includes a Big-Enterprise, Small-Enterprise Program, promotes industrial clustering through the complementation among towns in a province/region. For this purpose, regional/provincial governments should coordinate investments and support sub-contracting systems. They can provide investment subsidies in nontraditional activities. Government can also coordinate capital from Overseas Filipino Workers (OFWs) in support of SMEs. LGUs can develop SME centers to be supported by the national government. The government should conduct monitoring performance of supported firms, setting standards, and conducting quality inspections.

Another strategy is for the provincial government to provide entrepreneurs, especially the poor ones, with technology vouchers⁸ which they can use to avail the assistance of technology centers/incubators. The government then pays these technology centers for services provided to the cardholders.

Another form of assistance to SMEs is microcredit. Llanto (2003) describes the change in the government's approach to credit from credit subsidies to market-oriented microfinance. Experience has shown that directed credit has not reached the intended recipients and has led to large losses for the government. Despite the evidence, however, directed credit programs have persisted until the Agriculture and Fisheries Modernization Act (AFMA) of 1997 put an end to farm credit subsidies. A market-oriented credit system has instead been established. The AFMA promoted the use of market interest rates. From a direct provider of credit, the government has become a wholesaler of credit while private institutions and nongovernment organizations (NGOs) became the retailers. This has led to innovations in microfinance strategies. Loans became more suited to the needs and payment capacities of borrowers. The market-oriented credit program resulted in a greater number of poor beneficiaries, more sustainable lending institutions, and fiscal relief for the government. Regular commercial banks have likewise provided microfinance services. To sum up, the government should support the credit market by encouraging private/NGO microcredit schemes. Corollary to this, it should exercise prudent regulation and supervision of microcredit institutions to allow both the sustainability of their lending operations and the welfare of the borrowers.

G. Nonfarm economy

The rural nonfarm economy shares similarities with industrial development discussed in the previous section: they both concern non-agricultural activities. Therefore, they share similar promotional strategies. However, they differ in that the rural nonfarm economy includes the rural services sector while industrial development covers urban areas. Strategies for the promotion of the rural nonfarm economy fall under

⁸ Justimbaste 2007

four types: the development of small enterprises, agricultural marketing and agribusiness development, regional development, and macroeconomic policy and public investment (Haggblade, Mead and Meyer 2007). Among these strategies, business development under small enterprise promotion is the most relevant to local governments. Useful lessons from best practices include concentrating on a cluster of similar enterprises instead of individual businesses, zeroing-in on the important missing elements, supporting the growth of markets and access to these, and promoting the market for business development service delivery.

Agricultural marketing and agribusiness development strategies offer several important lessons. One is developing new roles for government including “reviewing, endorsing, and standardizing food safety laws and making them widely available” and addressing the deficiency in market infrastructure. Another is assisting small stakeholders to adapt to changing market conditions, for instance, by addressing the disparity in power and information. Third, concentrating on supply chains for particular goods; fourth, providing public infrastructure and promoting collective action to ensure competition; fifth, reducing public cost through private complementation; and lastly, providing technical and financial help separately (Haggblade, Mead and Meyer 2007).

In the 1970s, regional development efforts were pursued largely through integrated rural development (IRD) projects. Although these were generally unsuccessful due to their complexity, costliness, heavy reliance on agricultural technologies, and central control over their implementation, several lessons can be learned from these projects. These include creating a policy environment favorable to agriculture and rural enterprise, promoting productive activities based on enhanced farming technology, and concentrating on a few significant efforts (Haggblade, Mead and Meyer 2007).

H. Institutional development and governance

The MTPDP identifies only two roles for local governments requiring bureaucratic reform: the full devolution of the management of agriculture and fisheries services to local governments and the creation and empowerment of local housing boards in the provision of housing.

Nevertheless, several existing local institutions play significant roles in socioeconomic development. Local school boards are important in determining the annual additional budget requirements of public schools in the province, city or municipality, while local health boards determine the annual budget for health facilities and services. Local development councils play a key role in setting the direction of local economic and social development by formulating and coordinating the implementation of development plans and investment programs. An important institutional development program for these local bodies is the development of their capacity in planning and budgeting. They should have a clear understanding of the situation in their respective sectors/areas and should be able to determine the appropriate interventions. The process of planning and budgeting is discussed further in Section VI.

An important aspect of good governance is the ability of local governments to raise revenues. Apart from their share in the national taxes, local governments have been empowered to generate their own revenue and to impose taxes, fees, and charges. They

are also entitled to a fair share in earnings from the use of resources in their areas of responsibility.

The taxes collected by local governments should be consistent with the guidelines on the assignment of taxes across levels of government based on principles of economic efficiency, national equity, administrative feasibility, and fiscal need or revenue adequacy (Shah and Shah 2006). For administrative feasibility, taxes should be assigned to the level which can best monitor market valuations. This reduces administrative costs and the possibility of evasion. Revenue adequacy, on the other hand, requires the ability to raise revenues to correspond with spending requirements. Resource taxes including production and property taxes, land taxes, sin taxes from gambling and gaming, taxes on local pollution and congestion, parking fees, user charges, and betterment taxes, can be assigned to local governments. However, it must be noted that “the case for decentralizing taxing powers is not as compelling as that for decentralizing public service delivery.” Local taxation may create inefficiencies that can result in inequities across regions. For instance, varying efficiency in the administration of land taxes may lower demand for land where inefficiency is acute creating disparity in land valuation and development opportunities across regions. Local governments should therefore only collect the taxes they are expected to collect efficiently. Alternatively, there can be standardized rates across areas or transfers from the national government to address inequities.

The World Bank and ADB (2005) have proposed specific reforms for local governance in the country in the areas of local government financing, tax administration, planning and budgeting, and procurement and financial management. Local government access to private credit and private sector participation, particularly in infrastructure development, can be enhanced through strategies such as build-operate-transfer (BOT) arrangements and development of a market for local government securities. Revenue generation from local taxes can be enhanced through improvements in the collection of real property and business taxes. Meanwhile, local government planning and budgeting can be improved through measures that allow plans and budgets to be open for public examination, better revenue projection, and community participation in monitoring. The recently developed NEDA-ADB guidelines in planning, investment programming, budgeting and expenditure management, and project evaluation and development (discussed further in Section VI) will be useful to local governments. Local government procurement and financial management can be improved to ensure transparency and accountability through disclosure of the costs of goods and services and infrastructure, capability building for concerned personnel in bidding and procurement, disclosure of financial records and audit reports, and civil society participation in audit activities.

VI. Research, planning, and budgeting

To operationalize policies and develop programs, local governments need to be able to develop plans, prioritize and evaluate projects, and finance these. To help them achieve this, the NEDA developed a guidebook to assist LGUs in planning; investment programming; budgeting and expenditure management; and project evaluation and development. The following is a brief description of the various sections of the guidebook.

The *Planning* Guidelines aim to help local governments identify development issues or problems, set goals and objectives, identify strategies, and specify programs, projects and activities based on an analysis of physical, demographic, and economic environment.

The *Investment programming* guidelines aim to assist LGUs in the identification of capital investment projects over a six-year period. This entails the prioritization of projects identified in the development plan based on multiple criteria. It also involves the analysis of LGUs' capacity to finance the investment projects and appraise potential funding for investment projects.

LGUs can explore various modes of financing projects under the different programs, such as improving taxation and collection of user-charges, and utilization of alternative modes such as borrowing/bond flotation, income generation, and partnership with the private sector.

The *Budgeting and expenditure management* guidelines aim to strengthen the link between planning and budgeting by promoting fiscal discipline, allocative efficiency, and operational efficiency in spending through the introduction of various tools and techniques in the different stages of the budget process. The budget process comprises pre-budget preparation, budget preparation, legislation, review, execution, and accountability.

The *Project development and evaluation* guidelines aim to improve the effectiveness and allocative efficiency of LGUs by evaluating large projects. Project evaluations entail knowing the good or service and understanding the relationships among inputs, outputs, outcomes, and impacts. It also involves market, technical, financial, economic, externality, and risk and sensitivity analyses.

Research, data collection, and dissemination. The planning guidelines assume data limitations at the LGU level that constrain technical analysis and decisionmaking. The Philippine Institute for Development Studies (PIDS) can help address the scarcity of data by linking data providers such as the National Statistics Office (NSO) and line agencies with LGUs and the lack of technical capacity by providing capability building/training activities to ensure that planning decisions are well-informed and made correctly. Much of the situational analysis that will inform planning will rely on census and survey data, which are normally not available to LGUs. There is a need to make these data available to LGUs. The PIDS can coordinate with the NSO on making these available by processing census data and disseminating these in the form relevant to

LGUs. The Institute's research studies can also be used as input into the planning process.

The importance of rigorous research and timely and reliable data.⁹ Planning and policymaking critically depend on rigorous research, which helps identify issues and actors that need to be considered in planning and policymaking. Research also reveals what works and what does not work in regional and local government planning and policymaking. Research, however, is critically dependent on the timely collection, analysis, and use of reliable data. Successful decision-making relies on analysis of credible data, which also depends on quality data.

Decisions are eventually reflected as policies, budgets, systems, and services, which together influence health sector performance and outcomes. LGU decisions, however, can be enriched by research results, use of evidence from a timely and effective management information system, greater stakeholder participation, and the use of evidence from a timely and effective management information system.

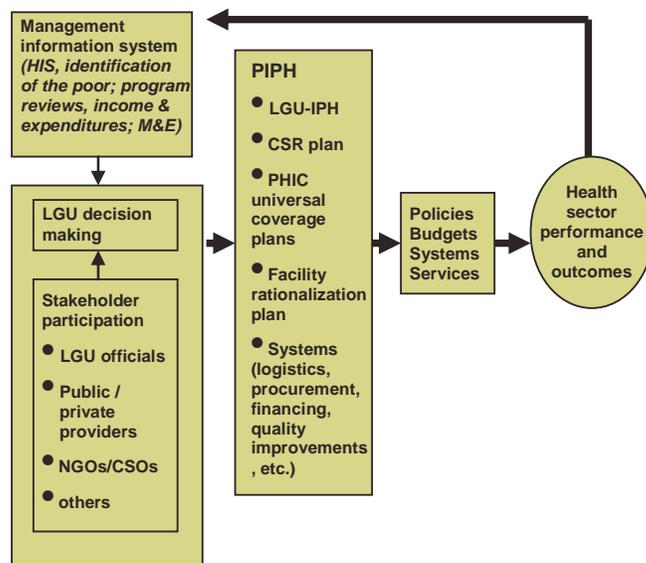
Thus, the key elements of evidenced-based participatory local decision-making process are: (a) letting data and analyses undergird decisions on resource allocation; and (b) allowing meaningful participation of stakeholders (Box 2).

⁹ This section is contributed by Dr. Aniceto C. Orbeta, PIDS Senior Research Fellow, and draws on the work of Dr. Alejandro N. Herrin (2007) and Dr. Alejandro N. Herrin and Earl Enrico L. Alcala (2007).

Box 2: DOH's FOURmula ONE for Health (F1)

The framework below takes the health sector approach to define what pieces of information are required and identify who the relevant stakeholders are. The health sector covers: (a) public and private sectors; (b) preventive and curative services; (c) consumers and providers of care; and (d) local and national concerns and institutions. The DOH's FOURmula ONE for Health (F1) uses this approach and identifies four key elements for achieving health sector reform: (a) service delivery, (b) regulation, (c) finance, and (d) governance.

Figure 19: Strengthening local governance for health through evidence-based participatory local decision-making process



These decisions are systematically organized in a province-wide investment plan for health (PIPH) using locally generated data on health sector performance and analysis based on a health sector reform perspective. The PIPH integrates various subcomponents e.g., the LGU plans such as the investment plan for health (IPH); contraceptive self-reliance plan (CSR); specific plans for achieving universal health insurance coverage; development of systems to support plan implementation; etc.

The implementation of an evidence-based plan generates better policies, appropriate bigger budgets and more effective systems, and results into more accessible high quality health services that will lead to improved health sector performance and health outcomes.

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