

Linking International Port Expansion Project To Socio-Economic Status: The Case Of Batangas, Philippines

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Abstract: The study determined the link of the Batangas Port Development Project (BPDP) to the socio-economic status of key cities and coastal municipalities of Batangas, province of Philippines. It described the development project's coverage, the extent of implementation, and port revenues; it revealed the effects of the BPDP to the socio-economic status of selected areas nearest to and with direct access to Batangas Port; and it discussed the implications of the findings to the stakeholders, specifically the local government personnel and officials. A descriptive method of research was used with documentary analysis to gather relevant information about BPDP. Data on socio-economic status as indicators were focused on the city or town's income, employment rate, number of businesses, education, health rate, and crime rate. Linear regression analysis was used to identify the relationship between port revenues and each indicator which contained beta coefficients, t-values, and probability values at 0.05 significant level. Results revealed that the coverage was placed under rehabilitation and planned into four (4) phases which constructed and financed through foreign loans; the extent of implementation was fully implemented up to the second phase only with the required facilities and amenities constructed, and the revenue was evidently increasing every year which can be attributed to the outcome of enhanced services. Socio-economic status of selected areas was described as socially and economically increasing with port revenues' positive effects in the realization of development which also have positive implication to the stakeholders.

Keywords: Development project: coverage and the extent of implementation, Port revenues, Socio-economic status

1. Introduction

As the center of the Asia Pacific region where the Philippines is strategically located needs to have a strong maritime industry to put the country at the forefront of the region's shipping, trade, industry, and tourism sectors. Maritime transport plays a vital role in the socio-economic development of the people. Ports are very essential as these serve as a gateway in towns, cities, and provinces in transporting people in trading goods and services and facilitating tourism activities (Delgado, 2001) [1]. Batangas City is currently being seen to evolve as a major urban center of the province both as a regional industrial growth center and as an alternative international seaport in the country. The city is the provincial capital of Batangas Province and is the center of all administrative, business, banking, and other related commercial activities. Services and facilities such as health, education, recreation, and telecommunications are concentrated in the city. In the region, the city has become the accelerating point of commercial and industrial activities. Also, it has been designated as the Regional Agro-Industrial Center and Special Economic Zone by the City Planning and Development Office (CPDO, 2017) [2]. Being identified city as an industrial growth center in the region and a focal point of the CALABARZON program, the increasing number of establishments in the city's Central Business District are observed. As the Industrial Port City of CALABARZON, Batangas International Port is declared as the alternate port of Manila where key RORO (roll-on-roll-off) port going to

Calapan City and ultimately to Iloilo City forming part of the Strong Republic Nautical Highway, connecting from Luzon to Visayas and Mindanao. Strategically, the location of Batangas Bay provides direct and easy access to push through with the planned inter-island and foreign trade via its operation of the Port of Batangas. Development is everywhere. It has both positive and negative effects on the lives of the people. The increasing number of establishments is observed as changes in the city's Central Business. However, development in the Port of Batangas is highly recognized as an international port which intended to promote agro-industrial services in the region. This port is expected to serve as a catchment area for industries located outside Metro Manila (PPA Website, 2017) [3]. And so, the study on the possibility of linking the Batangas Port Expansion project to the socio-economic status of selected areas in Batangas Province is proposed. Thus, this study aimed to reveal the effect of the Batangas Port Expansion Project to the Socio-Economic status of selected areas in Batangas Province. These areas are nearest to and with direct access to Batangas Port such as Batangas City, Lipa City, Tanauan City, Bauan, Calatagan, Nasugbu, San Juan, and Lobo. Moreover, the researchers intended to identify the effect of the expansion project in Batangas Port as perceived by the different stakeholders, especially the local government personnel and officials. Every government would like to be effective to uplift the lives of its citizens. It plans well its moves so every aspect of its governance synchronizes every

move of all its agencies to achieve its goals. Socio-economic activities deserve careful planning and realization. Socio-economic planning has something to do with the geographical location of a place. The Philippines sits in the south-east of Asia detached from the mainland. It is strategically located to be a focal point of business in this Region, South-East Asia. It can serve as the sea highway port. Manila as the capital city of the country becomes congested with port businesses. The government has thought of alternate ports to scatter national and international gateways of business. CALABARZON (Cavite, Laguna, Batangas, Rizal, and Quezon) has been formed not only for a geographical idea but also for economic reasons. According to Batangas Port, it has progressively led the country in terms of investments and employment generation. CALABARZON project according to Ditan (2010) [4] has been instrumental in bringing economic movement to Batangas with activities on the agricultural, livestock, fishery, manufacturing, commercial, mining, tourism, and other services, infrastructure sector as water, transportation, telecommunication, energy and utilities, and social sectors as education, health services, livelihood development, and others. It has targeted the major trading and shipping routes of Pacific Rim. Batangas bay's strategic location provides a direct and easy way to push through with the planned inter-island and foreign trade via operation of the Port of Batangas. In 1992, the initial development and operation of the Port of Batangas became the backbone of the CALABARZON industrial area. The working plan of Batangas Port was drawn based on its role to promote the development of Mindoro island in order to exploit the high development potential of the direct hinterland of the port and to support the social and economic activities of the growing Metro Manila area. Under the CALABARZON Development Plan, the capital of the province of Batangas, Batangas City, as the major regional urban center, plays a significant role as the main artery of investments. The city with its deep coastline has been identified as the site of the regional agri-industrial hub, Batangas Regional Agri-Industrial Center (BRAIC). The area is suitable for basic industries requiring private port facilities. Some of the coastal barangays in Batangas City and other towns like Bauan, San Pascual, and Mabini are hosts to the plants and factories of big national and multinational companies. Most of these companies are oil and fuel refineries and have their private piers. Port of Batangas is endowed with favorable natural conditions together with a geographical merit which plays a central role in the transportation of goods produced in Batangas and nearby islands. It is located approximately 100 kilometers south of Manila surrounded by land and protected by Mindoro, Maricaban, and Verde Island on the south side (PPA Website, 2017) [5]. In the advent of progress in the arena of import-export world, other big organizations have availed of the facilities of Batangas Port. Fortune Cement, Keppel Shipyard, Inc., Atlantic Gulf & Pacific (AG&P), Inc., and Philippine National Oil Company Marine Corporation are using the services and facilities of the port. The private ports of Batangas: Bay Terminal, Inc., Bauan International Port, Chevron Philippines, EEI Corporation, First Gas Power Corporation, Petron Corporation, Pilipinas Shell Petroleum Corporation, San Miguel Foods, Incorporated, Semirara Calaca Power Corporation among 34 industries and corporation avail of the services and facilities of Batangas Port under Philippine Ports Authority, Batangas City.

Philippine Ports Authority (PPA) is a government corporate entity especially charged with the financing, management, and operations of public ports throughout the archipelago. Its goal, as spelled out in its charter, Presidential Decree 857, as amended, is to implement an integrated port system that is aimed at accelerating maritime trade and commerce and carry forward the government objectives of transforming the Philippines into a newly-industrialized country. It envisions by 2020 to have provided port services of global standards. Its mission (1) provide reliable and responsive services in ports, sustain development of communities and the environment, and be a model corporate agency of the government, (2) establish a mutually beneficial, equitable, and fair relationship with partners and service providers, (3) provide meaningful and gainful employment while creating a nurturing environment that promotes continuous learning environment, and (4) establish a world-class port operation that is globally competitive adding value to the country's image and reputation. Moreover; excellence, creativity, customer satisfaction, responsibility, ethics, sincerity, and teamwork are the established core values. It also emphasizes in its business its quality policy: "It is the policy of the Philippine Ports Authority to consistently provide and continually improve the quality of its port operations and services in the facilitation of vessel entrance and clearance processes at the Port of Batangas that satisfy the needs of its clients and comply with international and national statutory and regulatory requirements." Batangas Port Development Project (BPDP) Phase I. As early as April 1999 Asia Terminal Inc. Batangas (ATIB, formerly Aries Arrastre Services, Inc.) was authorized by PPA to provide cargo handling services and manage the Fastcraft Terminal (PTB III). In October 2005, PPA renewed the Long Term (Lease) Contract I favor of ATIB for 10 years, but this time to include the newly constructed General Cargo Berth (GCB). On October 1, 2015, PPA awarded the Contract for the management, operation, maintenance, and development of Phase I, again, in favor of ATIB, for the handling of domestic and foreign cargoes, whether containerized or non-containerized and for the service of domestic and international vessels; with a contract term of 10 years. BPDP Phase I covering an area of 22 hectares was completed in 1999 at a cost of Ph1.6 billion. Batangas Port Development Project (BPDP) Phase I is dedicated to domestic vessels bound for Mindoro, Romblon, Masbate, Iloilo, Aklan, Cebu, and Cagayan de Oro and vice versa. It also caters to non-containerized foreign vessels. BPDP Phase II facilities include Batangas Container Terminal (BCT), cargo handling equipment, RGT's, gantry crane rails, turning basin, reefer van yard, maintenance shop, container freight station, and buildings. Lots I and II of the previously undeveloped area of BPDP Phase II were awarded through public bidding to AG&P of Manila, with a term of 5 and 7 years, respectively. Lot 1 covers an area of 220,020.86 square meters, and the lease thereof by AG&P commenced on June 21, 2012. Lot 2 covers an area of 240,004.35 square meters, and its lease took effect on August 23, 2012. Rental Rate for Lot 1 started at Php20 per square meter a month plus Value Added Tax (+VAT), and for Lot 2 at Php22 per square meter a month +VAT; both rates are subject to 5% yearly escalation. At present, AG&P is paying Php24.31 per square meter a month for Lot 1; and Php25.47 per square meter a month for Lot II. ATI leased an area of 20,002.89 square meters in Phase II is used as a staging area of CBUs for PDI Services, opposite

the Container Freight Station, for 5 years commencing on April 3, 2012, with a rental rate of Php20 per square meter. The 20,003.27 square meter parcel of land of Phase II was awarded to PNOC for their proposed Compressed Natural Gas refueling station, for a period of 7 years, commencing on February 25, 2015, with a rental rate of Php20 per square meter. In the Ship calls Comparative Traffic data of PPA, it shows that there were increases in the use of both phases, however, the data show that Phase II was not yet fully utilized as compared to that of Phase I. The same impression goes with Cargo throughput Comparative Traffic in MT. Nevertheless, in terms of Container Traffic in TEU's both increased but Phase II had greater earnings than Phase I. In terms of all aspects of port operations Batangas Port's income shows a dramatic increase having Phase II in operation. As such, the study aimed to reveal the effect of the Batangas Port Expansion Project to Socio-Economic Status of selected areas in Batangas Province. Specifically, the selected areas nearest to and with direct access to Batangas Port are as follows: Batangas City, Lipa City, Tanuan City, Bauan, Calatagan, Nasugbu, San Juan, and Lobo. The researchers intended to identify the effect of the expansion project in Batangas Port as perceived by the different stakeholders, especially the local government personnel and officials.

2. Statement of the Problems/Objectives

The following objectives were hereby drawn from the study: (1) to describe the Batangas Port Expansion Project with regards to coverage, extent of implementation, and port revenue, (2) to describe the Socio-Economic status of selected areas in Batangas Province from 2011 to 2015 in terms of social and economic indicators, (3) to determine the link between Batangas Port Development Project and Socio-Economic status of selected areas in Batangas Province, and (4) to reveal the implications of the findings to stakeholders. These stakeholders are composed of local government personnel and officials of selected areas in the Province of Batangas.

Specifically, the study sought to answer the following questions:

1. What is the development status of the Batangas Port Expansion Project about the following descriptions:
 - 1.1 coverage;
 - 1.2 the extent of implementation; and
 - 1.3 revenue?
2. What is the socio-economic status of selected areas in Batangas Province from 2011 to 2015 in terms of the following indicators:
 - 2.1 Economic
 - 2.1.1 employment;
 - 2.1.2 income; and
 - 2.1.3 a number of businesses?
 - 2.2 Social
 - 2.2.1 education;
 - 2.2.2 health; and
 - 2.2.3 crime rate?
3. Is there a significant relationship between the Revenue of the Batangas Port Expansion Project and the Socio-Economic status of selected areas in Batangas Province?
4. What are the implications of findings to stakeholders?

3. Methods

The researchers were used descriptive methods of research for this study. Data were gathered based on necessary details and relevant information regarding the Batangas Port Development Project in which documentary analysis was also employed. In obtaining relevant information, permission was sought from the PPA officials. The documents that cover the scope, the extent of implementation, and the PPA revenue were gathered and analyzed by the researchers. And so, data on the socio-economic status of selected areas in Batangas Province from 2011 to 2015 were gathered from the Local Government's Planning and Development Office. These areas were as follows: Batangas City, Lipa City, Tanauan City, Bauan, Calatagan, Nasugbu, San Juan, and Lobo. The needed information or indicators focused on the city or town's income, employment rate, number of businesses, education, health rate, and crime rate were gathered from August 2017 to January 2018. These indicators were correlated one at a time with the port revenue in establishing the relationship between two variables. In identifying the strength of the effect that the port revenues have on every indicator; a linear regression analysis was the appropriate statistical tool being used. The statistical computations were derived as computer output which contained beta coefficients with t-values and probability values. For better accuracy and convenience, computations were done using a statistics software package version 22 with the minimum level of significance of 0.05. More so, face to face interviews with selected respondents of the study who represent the different stakeholders was conducted. They were asked about their observations on the positive and negative effects of the Batangas Port Expansion Project with regards to the mentioned indicators related to socio-economic development.

4. Results and Discussions

1. Development Status of Batangas Port Expansion Project
The development status of the Batangas Port Expansion Project is described with regard to its coverage, extent of implementation, and port revenues.

1.1 Coverage. The base-port of Port Management Office (PMO) is within the City of Batangas at Barangay Calicanto and is located 110 kilometers from Metro Manila. Batangas Port is considered as the Main Gateway to and from the islands of Mindoro, Marinduque, Romblon, and Palawan (MIMAROPA), the Visayas, and Mindanao according to JICA's Feasibility Study conducted in 1981. The Batangas Port Expansion Project's main purpose is to increase the capacity and improve the efficiency of cargo handling facilities at the port in accommodating future flows. To improve the cargo shipping needs of this Hub Port, the Batangas Base Port was placed under rehabilitation. There will be four (4) Phases of Development to be constructed and financed through foreign loan. Phase I was designed for domestic shipping. The succeeding phases II and IV were intended for container terminal operations. The proposal of the developers was based on the Master Plan with seventeen (17) berths, eleven (11) new ones and two (2) existing berths for improvement purposes. Phases I and II are serving Mindoro and other nearby islands within the economic range. Also, these Phases are responding to the continuing demands of trade, commerce, and industry. Phase II

development is aimed to complete the following facilities such as: Administration building, A-1 Container Terminal, A-2 Container Terminal, A-3 Container Terminal, Container Freight Station, Empty Container Depot, Sub-station for Power Supply, and Water Supply (PPA Brochure, 2012) [6]. One of the criteria in port development is a complete project should have included provision for many facilities which are for many facilities which are auxiliary to the main operations and services of the port as pointed out by the United Nations Conference on Trade and Development Secretariat (Digitized, 2008) [7]. This can be observed that facilities that support and enhance the main port operations and services are covered as stated in the plans for the expansion project of the Batangas Port.



Overall View of Batangas Port Phase II covering an Area of 128 hectares with an Estimated Cost of P7 Billion



Phase II



Phases I & II

1.2 Extent of Implementation. The realization of the Batangas Port is made through the feasibility study conducted by the Japan International Cooperating Agency (JICA) from 1984 to 1985. There are major developments in the Port that continuously on going where only up to the second phase has been accomplished. The Batangas Port Development Project's extent of implementations is being grouped into four (4) phases where Phases I & II are fully implemented and Phases III & IV are not yet implemented. Its implementation started with the first phase which has three (3) Passenger Terminal buildings with adequate berthing areas for foreign vessels, domestic vessels, RORO ramps, fast craft berths, anchorage and fairway, storage areas, parking areas, elevated walkways, and passenger boarding bridges. The Batangas Port Expansion and Modernization Project in its first phase have been completed during the administration of former President Fidel V. Ramos (Llanto, 2004) [8]. This Phase I was completed in 1999 with a total amount of Php1.6 billion where the project covers an area of 22 hectares. Its base port was handled only 542,219 tons of Domestic and Foreign cargoes where more or less 3,450,529 recorded passengers during the year 2006. In the second phase of the Batangas Port Development Project, the construction of an International Container Terminal was materialized to complement the Ports of Manila and to meet the demands of CALABARZON and Southern Tagalog provinces. Its construction started on January 16, 2002, covering an area of 128 hectares and completed in August 2005 amounting to almost Php3 billion. This Phase II development project is the first upgrade of the PPA facilities of a wider scale for economic activities that cater to pure cargo. It accommodates facilities and structures such as basin area, navigational aids, wharf, gantry cranes, access road, service road, container yard, maintenance shop building, and other important support facilities (Arellano, 2009) [9]. The completion of Phase II for the Batangas Port Development Project was done through the supply and installation of passenger boarding bridges during administration President Gloria M. Arroyo (Llanto, 2004) [10]. The Phase II project is divided into three (3) packages such as (1) Package one includes the civil and marine works with container terminal, general cargo berth, accessing and services road, dredging and reclamation works, and building

and supporting facilities; (2) Package two includes completion of five boarding bridges; and (3) Package three includes construction of flyover and port access. Moreover, there is a plan for extending the current berthing area by another kilometer for accommodating post-Panamax vessels. With regards to security, a full port security system has been installed comprising of the Vessel Traffic Management System (VTMS), Closed Circuit Television System (CCTV), gate management system, mobile x-ray scanning machine, and harbor craft. Amenities are installed in Phase II such as navigational aids, reefer van, maintenance shop, and constructed container freight station, powerhouse, and pump house. From the original plans, the Batangas Port Development Project is set with cargo-handling equipment as an additional improvement amounting to an estimated Php1.06 billion. Also, the port has been equipped with two quays to accommodate more cargoes. In addition, the improvements in the port on top of its approved plan have further boosted the attractiveness of the port to possible investors during its privatization. The constructed facilities of Batangas Port Development Project for Phase II include the following improvements such as (1) Dredging of inland part to 13 meters depth; (2) Reclamation of 64 hectares port area; (3) Construction of container berth with a length of 450 L.M.; (4) Construction of road network; and (5) Main building/pavement/warehouse/maintenance shop. This Phase II project has been fully implemented. The original expansion project should have been made along Sta. Clara Elementary School. However, it has been diverted along Diversion Road at Calicanto, Batangas City in a reason that the depth of the sea along Sta. Clara Elementary School is not appropriate for dredging and it would be more expensive if it has been pursued. The operations of the Port are maximized due to some required facilities being constructed. There are enhancements in the services to achieve efficiency in both passenger and cargo traffic. Meanwhile; Mr. Marceduño U. Banuelos, the Port Services Division Manager during an interview said that “Although there had been changes from the original plan, specifically the direction and scope of construction: the status of the Batangas Port Expansion Project in terms of the extent of implementation is halfway done”. This status can be attributed due to financial limitations since huge amounts are required for the project. Thus, huge investments and comprehensive planning must be required in the development of a port.

1.3 Revenues. The port revenues were operated by the business activities and services of the Batangas Port. Figure 1 showed the Revenues of Batangas Port from 2011 to 2015. It can be observed in Figure 1 that there is an increase in the revenue every year. The majority of the total income earned by the Batangas Port came from the wharfage services and has been considered as the topmost contributor in the increase of port revenues in Batangas. Fees on wharfage are charges assessed by shipping terminals or port when goods are moved through the location. Incoterms (2010) [11] defined wharfage as one of the costs of transport good within the distribution system used in business to bring its good to market.

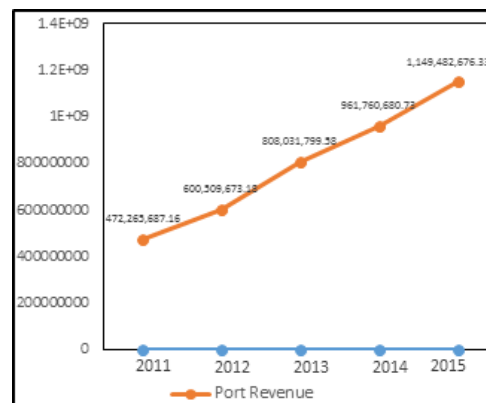


Figure 1: Revenues of Batangas Port

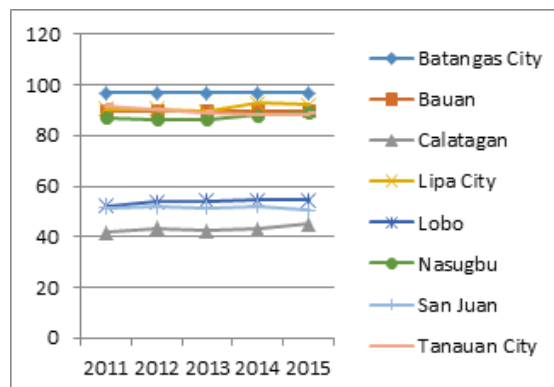
The increase in port revenues can be attributed to the outcome of enhanced services in terms of quality, speed, and convenience to the customers or clients. In addition, facilities like the wharves have contributed to the increase in revenues. These developments were brought satisfaction among customers or clients. As they are satisfied with the services of the Batangas Port, the more revenues will be collected. Thus, the increase in revenues is due to the customers’ or clients’ satisfaction in the services offered by the Batangas Port.

2. Socio-Economic Status of Selected Areas in Batangas Province

This study zeroed in on the socio-economic aspects of the places under study. This is to find out the effects of the extensions and operations of the Port of Batangas. Employment rate, income, number of businesses, education, health, and crime rate are the aspects studied. In this phase of the PPA expansion, it covers the years 2011 to 2015.

2.1 Economic. The economic status of selected areas in Batangas Province from 2011 to 2015 can be figured out in terms of the following indicators such as employment, income, and number of businesses.

2.1.1 Employment. This is a front runner in identifying the economic progress or development of a place. The economy is strong when a very great percentage of a place’s population is employed. Figure 2 shows the employment rate of selected areas in Batangas Province.



Sources: Community Based Management System (CBMS) of Municipalities and Cities

Figure 2: Employment Rate of Selected Areas in Batangas Province (2011 – 2015)

Batangas City had the greatest employment rate as shown in the figure. It maintained in five years its more than 90 percent rate. It had the greatest employment among the selected areas because it was the main location of the International Port. Since the Batangas port Development Project (BPDP) Phase II catered to international container vessels, it added employment to the manpower of the port and the businesses that it catered to. This was aside from its catering to the domestic vessels brought about by Phase I. Each shipping company gave employment to the locals and other businesses connected to each shipping company. Lipa City had the second-highest employment rate. Its location was the second city from the port. It managed to have an average of 90 percent employment rate. It increased a bit in 2014 and 2015. The high percentage of the employment rate was due to various businesses the Lipeños engaged with. Tanauan City had another high employment rate. Its location was the third city from the port. It also managed to maintain the rate. However, it can be seen that there was a bit of a decreasing trend in 2014 and 2015 which was not dramatic. The municipality of Bauan, which was seven kilometers away from Batangas City and had its own Batangas Port Extension, had another high employment rate. This may be due to a number of big businesses it had along its shoreline. These oil and ship businesses needed much manpower. Another municipality, Nasugbu, which also had its Batangas Port Extension, had a high employment rate too. It also managed to maintain its high rate at around 90 percent average. It had a bit increase in the years 2014 and 2015. These two port municipalities were at the west side of the province and more accessible to Manila, which may be a reason for more employment. The Municipalities of Lobo and San Juan also had Batangas Port Extensions. Their employment rates from 2011 to 2015 were almost the same. Both had around 50 percent on the average. They maintained the rates in five years even though there was a slight decrease in San Juan in 2015. Both were agricultural municipalities and both were in the south of Batangas Province near Quezon Province which is also an agricultural area. Calatagan, a municipality with another port extension, had an average of around 42 percent employment rate. It had a bit increase in 2015. Most lines in the graph are almost straight horizontally showing little improvement over the five-year period of study.

2.1.2 Income. This study also focuses on the income rate of the selected areas. This aids in identifying the effect of the port. Figure 3 shows the details. Batangas City's income from 2011 to 2015 had interesting slopes. It was only in 2013 when there was a little decrease in income while the rest of the years increased. Around Php300,000,000 increase in 2012; Php300,000,000.00 increase in 2014; and Php600,000,000.00 increase in 2015 were tabulated. Its Php1.3 billion income in 2011 increased to more than Php2.3 billion in 2015. It had the highest income among the areas under study. Lipa City had the second-highest income. Its income increased from Php998,269,329.00 in 2011 to Php1,357,283,042.33 in 2015. Tanauan City's income in five years increased. The increase was from Php708 million to more than Php1 billion. The increase was constant from 2011 to 2014. The next year showed a little increase from Php1,057,594,271.00 in 2014 to Php1,080,286,988.00 in 2015.

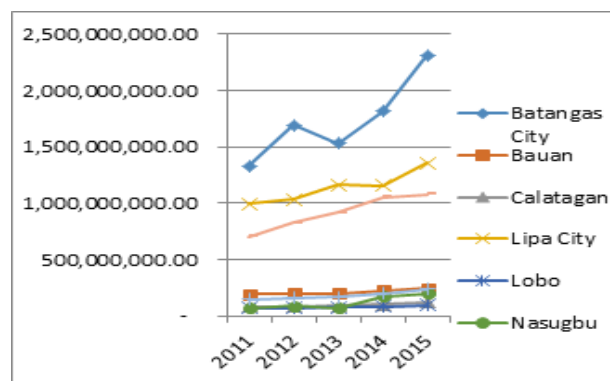


Figure 3: Income of Selected Areas in Batangas Province (2011 – 2015)

Bauan had a slight increase from 2011 of Php194 million to 2015 of Php238 million. San Juan gained a little over five years. It recorded more than Php147 million in 2011, Php159 million in 2012, Php171 million in 2013, Php202 million in 2014, and Php238 million in 2015. Nasugbu gained more in 2012 with Php92 million from Php73 million in 2011. It dropped to Php71 million in 2013. However, it gained more again in 2014 to Php176 million and in 2015 to Php201 million. Lobo increased its income from Php72 million in 2011 to Php100 million in 2015. The greatest increase was from 2014 to 2015 by Php14 million. Calatagan had a little increase in income having Php123 million at the end of five years. The selected areas had better income over the five-year period of study.

2.1.3 Number of Businesses. This study finds it fitting to look into the number of businesses in the areas over the specified time frame. The movement in this variable is a strong indicator of the effect of the port expansion. Figure 4 shows the number of businesses in selected areas in Batangas Province.

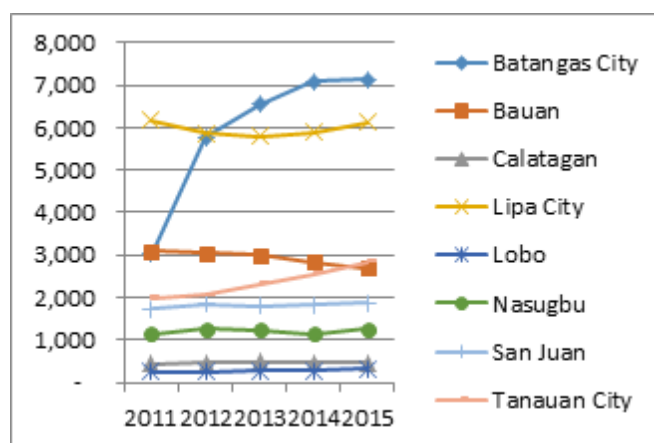


Figure 4: Number of Businesses of Selected Areas in Batangas Province (2011 – 2015)

Batangas City recorded the highest increase in the number of businesses in 2012. It was numbered to 3,000 in 2011 which increased to 6,555 in 2012. The increase continued to 2015. Businesses permitted in 2015 were 7,144. It was only in 2015 that the increase was small from 7,089 in 2014 to 7,144 in 2015. Lipa City's number of businesses produced a concave in the graph. This shows that permitted businesses

in Lipa City went down a bit in 2012 (6,178 in 2011 to 5,859 in 2012), went down a bit more in 2013 to 5,792 businesses, rose a bit in 2014 to 5,883 businesses, and rose a bit again in 2015 to 6,131 businesses showing almost similar number of businesses in 2011 and 2015. Bauan had the third highest number of businesses among the selected areas. However, the graph indicates the downward trend from 2011 to 2015. The decrease was gradual every year in five years. It was from 3,103 to 2,693. Tanauan City, however, recorded a positive change in the number of businesses. There were increases from 2011(1,991) to 2015(2,844) with 853 additional registered businesses in the city. San Juan had a very little increase from 1,722 to 1,864 registered businesses over the five years of study. Nasugbu recorded small changes in number. The number increased a bit in 2012 and was almost the same in 2013. It went down a bit in 2014 but went up a bit again in 2015. It was 1,142; 1,263; 1,232; 1,141; 1,266 from 2011 to 2015 respectively. Calatagan was almost constant over five years period from 442 to 454 businesses. Lobo almost kept constant in the number of businesses over the five years of study. Its recorded businesses were 243, 260, 266, 266, and 325 from 2011 to 2015 respectively. There was an increase in 2015. Most of the areas increased their registered businesses.

2.2 Social. The social status of selected areas in Batangas Province from 2011 to 2015 can be figured out in terms of the following indicators education, health, and crime rate.

2.2.1 Education. When there is a high population of school children, it is an indication that the population can afford school. It also indicates that society improves because education improves the thinking and behavior of society.

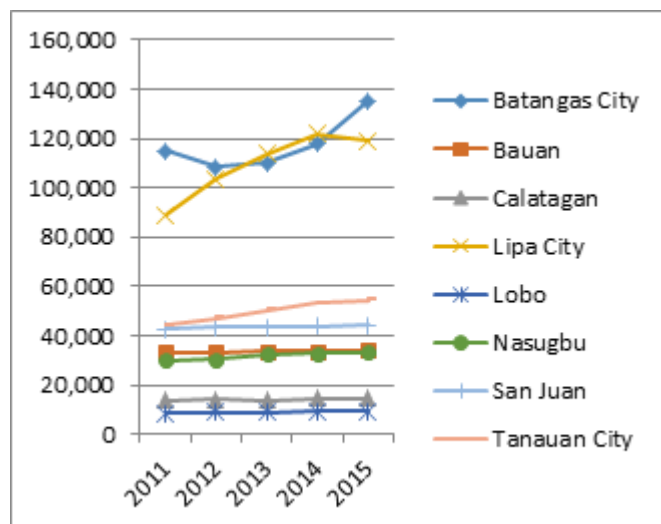


Figure 5: Education Rate of Selected Areas in Batangas Province (2011 – 2015)

Figure 5 shows the rate of enrolment every year in the selected areas in Batangas Province. It includes enrolment in primary, secondary, and tertiary levels. Batangas City's education rate dropped from 115 thousand to 108 thousand in 2012 but gradually increased in the succeeding years. It recorded 108 thousand to 135 thousand from 2012 to 2015 keeping an average increase of around 9 thousand a year. Lipa City recorded an increasing trend from 2011 to 2014 from almost 89 thousand to 121 thousand. Instead of

increasing by around 10 thousand as an average in the past three years, in 2015 it decreased to 119 thousand by around two thousand. Tanauan City had a gradual increase from 2011 to 2014, recording 44 thousand to 53 thousand with an average increase of around five thousand a year. A slight increase to 54 thousand was recorded in 2015. San Juan was almost constant at around 44 thousand in five years. Bauan was also constant in enrolment at around 33 thousand in the years under study. Nasugbu had a slight increase from 2013. It was from 30,363 in 2012 to 33 thousand in 2015. Lobo recorded a slight increase from 8,284 to 9,186 over five years. Calatagan also recorded a little in the five years study period from 13,884 in 2011 to 14,410 in 2015. Most of the areas had an increasing trend in the number of enrollees.

2.2.2 Health Rate. The economy is affected by the health of the people. The economy is better when citizens are healthy. Also, citizens' health becomes better when the economy satisfies physical needs. This study considers the health of the citizens of the selected areas in identifying the effect of the port expansion. Figure 6 shows this.

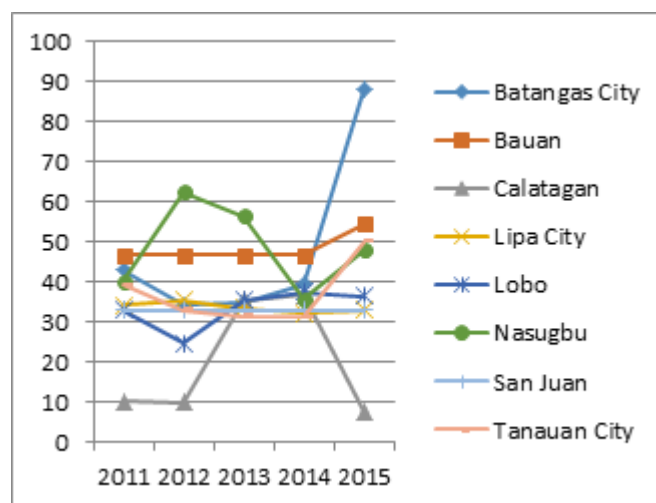


Figure 6: Health Rate of Selected Areas in Batangas Province (2011 – 2015)

Batangas City recorded good drop-in health cases in 2012 from 42.89 in 2011 to 34.29 in 2012. There were gradual increases in 2013 (34.98) and 2014 reaching 39.5 cases in 2014. However, it shot up at a high 88.12 cases in 2015. Lipa City recorded little but good changes in health cases from 2011 to 2015. It rose a bit from around 34 in 2011 to 35 in 2012; went down by a two (33.43) in 2013; went down again by one (32.17) in 2014; almost the same 32.97 in 2015. Tanauan City had good drop-in health cases from 39.23 in 2011 to 33.11 in 2012. The next two years had a little drop to around 31 in 2014. Nevertheless, it had a bad increase in number in 2015 to 50.01 cases. Bauan had almost stagnant cases from 2011 to 2014 (46.87) but it rose to 54.60 cases in 2015. Nasugbu had 40.15 cases in 2011 which rose to 62.62 cases in 2012. It went down to 56.56 in 2013 followed by another drop in 2014, 35.76 cases. However, there was a rise in 2015 to 47.97 cases. San Juan recorded an almost equal number of cases, 33, in the five years study period. San Juan recorded almost constant health cases over the five years study period. Its cases were 33.00, 32.99, 33.05, 33.02, 33.01 from 2011 to 2015 respectively. Lobo dropped in 2012 to 24.80 cases from 33 of 2011. It rose again to 35.56, 37.61,

and 36.43 in the next succeeding years. Calatagan had the lowest health cases in 2011 of 10.17 cases and even dropped a little in 2012, 9.88. However, it went up to 35.47 cases in 2013; a little higher in 2014 (36); then was a sudden drop in 2015, 7.79. Most of the areas had increased health cases over five years.

2.2.3 Crime Rate. Places with lower crime rates are better to live in. They also signal a better economy because there are fewer worries for the business sector aside from the ordinary citizens of a place. This study also focused on the crime rate of the selected areas. Figure 7 shows the details. Lipa City had the highest crime rate among the selected areas of study. It recorded 545 in 2011 which went down to 469 in 2012. However, the rapid increase to almost 100 percent was recorded in 2013 at the 829 crime rates. The next two years of the study recorded increases with 1011 and 1086 crime rates respectively for 2014 and 2015. Batangas City had the next high crime rate. It had 478 crimes in 2011 which rose to 679 in 2012. It went up again in 2013 at 703. It dropped 589 in 2014 but went up again in 2015 recording 802 crimes. Tanauan City followed in the number of crimes. There were 280 cases in 2011 which lessened to 263 in 2012. Nevertheless, the succeeding years' recorded rise in number: 392 in 2013, 418 in 2014, and 435 in 2015. Nasugbu had an average of 237.90 crime rate over five years which was distributed to 224 in 2011, 263 in 2012, 216 in 2013, 245 in 2014, and 241 in 2015. The numbers did not show dramatic fluctuations. San Juan increased its crime rate. There were only 84 cases in 2011 which went up to 105 in 2012. Another increase registered in 2013 at 143. It was good in 2014 when it was lessened to 113. Nevertheless, it went up by more than 100 percent in 2015 at 241.

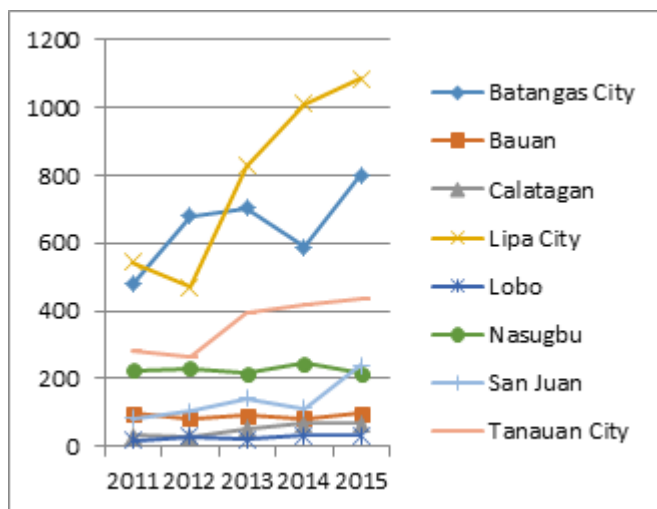


Figure 7: Crime Rate of Selected Areas in Batangas Province (2011 – 2015)

Bauan’s line was almost straight horizontally with 92 cases average. Calatagan recorded an increase of almost 100 percent over five years period. It started at 35 in 2011, 30 in 2012, 54 in 2013, 67 in 2014, and maintained the number in 2015. Lobo also doubled over the five years study period. It was only 17 in 2011, went up to 31 in 2012, went down to 20 in 2013, but went up to 34 in 2014 and 2015. Most of the places recorded an increasing trend in the crime rate.

3. Relationship between the Revenue of the Batangas Port Expansion Project and the Socio-Economic status of selected areas in Batangas Province

The study sought to find out whether the Revenue of the Batangas Port Expansion Project is significantly related to the socio-economic status of selected areas in Batangas Province. The null hypothesis to be tested was that “There is no significant relationship between the Revenue of the Batangas Port Expansion Project and the socio-economic status of selected areas in Batangas Province. This relationship can be tabulated and discussed considering the comparison between P-values and 0.05 significance level. Port development is a major component of the overall transport development in Batangas City as well as in the areas of Batangas Province and in the entire Philippines. As recorded, Hayuth and Hilling (1992) [12] said that the increasing number of investments and income for the city or province and the country is part of development. Generally, it is accepted that transportation is a very important factor in the process of development and the absence of transport factors significantly slows down the realization of the growth potential of a certain area. Table 1 presents the relationship between the Revenue of Batangas Port Expansion Project and the Socio-Economic status such as employment rate, income, number of businesses, education, health rate, and crime rate of Batangas City with the use of t-value and beta coefficient.

Table 1: Relationship between Port Revenues and Socio-Economic Status of Batangas City

Indicators	Beta Coefficient	P value	t value	Decision Ho	VI
Employment rate	0.437	0.462	0.841	Accept	NS
Income	0.880	0.049	3.210	Reject	S
Number of businesses	0.862	0.060	2.946	Accept	NS
Education	0.753	0.142	1.980	Accept	NS
Health rate	0.686	0.201	1.633	Accept	NS
Crime rate	0.708	0.181	1.734	Accept	NS

Legend: VI = Verbal Interpretation, NS = Not Significant, S = Significant

The beta coefficient indicates an increase in the actual number each indicator corresponding to an increase in the port revenue as an independent variable is accounted for and is held fixed or constant. The significant regression analysis showed that the income of Batangas City as related to port revenues. The computed probability value of 0.049 which is less than 0.05 indicated that there was a significant relationship in the independent and dependent variables. This finding can be supported by Rayos (2013) [13] in his study that the Batangas Port Expansion Project has socio-economic contributions to the City of Batangas. Port development is a major component of the overall transport development not just in Batangas but also in the entire country that made an increasing investment and income for the city. And so, the project contributes to the local income due to the revenues generated by the establishments in the Port, as well as taxes on shipping. The significant relationship on income to port revenues was revealed by the beta coefficient value of 0.880 with a t-value of 3.210. The null hypothesis was therefore rejected at 0.05 level of significance. Income was a significant indicator of port revenues. This means that the Batangas City’s higher income can be expected to correlate

with the port revenues. Thus, 88 percent of the variability in port revenues may be attributed to the city's income. Table 2 presents the relationship between Batangas Port Revenues and Socio-Economic Status of Bauan.

Table 2: Relationship between Port Revenues and Socio-Economic Status of Bauan

Indicators	Beta Coefficient	P value	t value	Decision Ho	VI
Employment rate	0.998	0.000	24.585	Reject	S
Income	0.917	0.028	3.977	Reject	S
Number of businesses	-0.974	0.005	-7.473	Reject	S
Education	0.998	0.000	27.980	Reject	S
Health rate	0.722	0.168	1.809	Accept	NS
Crime rate	0.123	0.844	0.215	Accept	NS

Based on the results of regression analysis, it shows that a significant correlation was formulated with employment rate and education, a number of businesses, and income as significantly related to the port revenues. With probability values less than 0.05, the regression coefficient indicated significant relationships between two variables. The computed beta coefficient values ranging from -0.974 to 0.998 showed significant relationships on employment rate and education, the number of businesses, and income to port revenues with t-values from -7.473 to 27.980 and probability values from 0.000 to 0.028. These values showed a positive correlation between the two variables, thereby rejecting the null hypothesis at the 0.05 level of significance. The results showed that the socio-economic status of Bauan such as employment rate, education, number of businesses, and income are significant indicators to port revenues. This means that -97.4, 91.7, and 99.8 percentages of the variability may be attributed as indicators of port revenues. The relationship between Batangas Port Revenues and Socio-Economic Status of Calatagan is presented in Table 3.

Table 3: Relationship between Port Revenues and Socio-Economic Status of Calatagan

Indicators	Beta Coefficient	P value	t value	Decision Ho	VI
Employment rate	0.783	0.117	2.181	Accept	NS
Income	0.936	0.019	4.611	Reject	S
Number of businesses	0.391	0.515	0.737	Accept	NS
Education	0.674	0.212	1.582	Accept	NS
Health rate	0.919	0.027	4.039	Reject	S
Crime rate	0.935	0.020	4.554	Reject	S

The results of the regression analysis show that significant correlations were derived from income, crime rate, and health rate as essential indicators of port revenues. From the computed probability values of less than 0.05, significant relationships between the two variables were discovered. The beta coefficient values of 0.936, 0.935, and 0.919 were considered significant indicators to port revenues with t-values of 4.611, 4.554, and 4.039 and probability values ranging from 0.019 to 0.027. These probability values were less than 0.05 level of significance. Thus, the null hypothesis was rejected. The findings showed that there were significant relationships with income, crime rate, and health rate to port revenues. This means that whatever revenues of the port, 93.6, 93.5, and 91.9 percentages of the variability may be attributed as essential indicators in determining the link of

the Batangas Port Development Project. In Table 4, the relationship between Batangas Port Revenues (independent variable) and Socio-Economic status (dependent variables) of Lipa City is shown.

Table 4: Relationship between Port Revenues and Socio-Economic Status of Lipa City

Indicators	Beta Coefficients	P value	t value	Decision Ho	VI
Employment rate	0.629	0.256	1.400	Accept	NS
Income	0.955	0.011	5.582	Reject	S
Number of businesses	-0.028	0.964	-0.048	Accept	NS
Education	0.913	0.030	3.889	Reject	S
Health rate	-0.766	0.131	-2.064	Accept	NS
Crime rate	0.952	0.013	5.359	Reject	S

Results of regression analysis show that significant relationships were formulated between the port revenues and the socio-economic indicators such as income, crime rate, and education of Lipa City. The exhibited probability values are less than five percent indicated that the regression coefficients tended to show significant relationships between the two variables. The computed beta coefficient values of 0.955, 0.952, and 0.913 with t-values of 5.582, 5.359, and 3.889 and probability values of 0.011, 0.013, and 0.030 showed significant relationships on port revenues to mentioned socio-economic indicators. Thus, the hypothesis was rejected at 5% significant level. This goes to show that the port revenues and the indicators have positive correlations. The results implied that in the increase of port revenues 95.5, 95.2, and 91.3 percentages may be attributed also in the increase of Lipa City's income, crime rate, and education. Table 5 shows the relationship between Batangas Port Revenues and the Socio-Economic status of Lobo.

Table 5: Relationship between Port Revenues and Socio-Economic Status of Lobo

Indicators	Beta Coefficients	P value	t value	Decision Ho	VI
Employment rate	0.866	0.058	3.000	Accept	NS
Income	0.936	0.019	4.586	Reject	S
Number of businesses	0.870	0.055	3.053	Accept	NS
Education	0.958	0.010	5.768	Reject	S
Health rate	0.645	0.240	1.462	Accept	NS
Crime rate	0.681	0.205	1.612	Accept	NS

As observed from the results of regression analysis, it shows in the table that significant correlations were derived between the port revenues and the socio-economic indicators of Lobo. These indicators were education and income with computed probability values of less than 5% level of significance. There were significant relationships in the independent and dependent variables. The significant relationships on port revenues to education and income were revealed by the beta coefficient values of 0.958 and 0.936 with t-values of 5.768 and 4.586 and probability values of 0.010 and 0.019. These probability values were less than 0.05 level of significance. The null hypothesis was rejected. The findings showed that port revenues and socio-economic indicators were significantly correlated. Thus, 95.8 percent and 93.6 percent of the variability in education and income may be attributed as essential indicators of port

revenues. Table 6 presents the relationships between Batangas Port Revenues and the Socio-Economic status of Nasugbu.

Table 6: Relationship between Port Revenues and Socio-Economic Status of Nasugbu

Indicators	Beta Coefficients	P value	t value	Decision Ho	VI
Employment rate	0.777	0.122	2.140	Accept	NS
Income	0.866	0.057	3.004	Accept	NS
Number of businesses	0.297	0.628	0.538	Accept	NS
Education	0.953	0.012	5.473	Reject	S
Health rate	-0.187	0.764	-0.329	Accept	NS
Crime rate	-0.064	0.919	-0.111	Accept	NS

Significant regression analysis showed education as an indicator of port revenues. The computed probability value of less than 0.05 indicated significant relationships in the independent and dependent variables. The significant relationships with education and port revenues were revealed by the beta coefficient value of 0.953 with a t-value of 5.473 and a probability value of 0.012. This probability value is less than 0.05 level of significance. The null hypothesis was therefore rejected. Education was an essential indicator of port revenues. Thus, 95.3 percent of the variability to port revenues may be attributed as an indicator. The relationship between the Batangas Port Revenue and Socio-Economic status of San Juan is presented in Table 7.

Table 7: Relationship between Port Revenues and Socio-Economic Status of San Juan

Indicators	Beta Coefficients	P value	t value	Decision Ho	VI
Employment rate	-0.457	0.439	-0.889	Accept	NS
Income	0.969	0.006	6.823	Reject	S
Number of businesses	0.696	0.192	1.677	Accept	NS
Education	0.969	0.007	6.770	Reject	S
Health rate	0.369	0.541	0.688	Accept	NS
Crime rate	0.838	0.076	2.658	Accept	NS

As indicated in the results of regression analysis, there were significant correlations with the port revenues and the socio-economic indicators of San Juan. These indicators were income and education. With the computed probability values of less than five percent, there were significant relationships between the two variables as discovered. The same beta coefficient values of 0.969 for income and education were considered significantly related to port revenues with t-values of 6.823 and 6.770 and probability values of 0.006 and 0.007. These probability values were less than a 5% level of significance that tended to reject the null hypothesis. The findings showed that there were significant relationships between the port revenues and the socio-economic indicators. Thus, 96.9 percent of the variability in income and education may be attributed as essential indicators of port revenues. Table 8 presented the relationships between Batangas Port Revenues and Socio-Economic status of Tanauan City. The observed results of regression analysis show that significant relationships were formulated with revenues of Batangas Port and socio-economic indicators of

Tanauan City. These indicators were the number of businesses, education, income, crime rate, and employment rate. The exhibited probability values were less than five percent in which the regression coefficient tended to show significant relationships between the two variables.

Table 8: Relationship between Port Revenues and Socio-Economic Status of Tanauan City

Indicators	Beta Coefficients	P value	t value	Decision Ho	VI
Employment rate	-0.915	0.029	-3.929	Reject	S
Income	0.976	0.004	7.847	Reject	S
Number of businesses	0.990	0.001	12.360	Reject	S
Education	0.985	0.002	9.781	Reject	S
Health rate	0.417	0.485	0.794	Accept	NS
Crime rate	0.932	0.021	4.464	Reject	S

The computed beta coefficient values of 0.990, 0.985, 0.976, 0.932, and -0.915 with t-values of 12.360, 9.781, 7.847, 4.464, and -3.929 and probability values ranging from 0.001 to 0.029 showed significant relationships on port revenues to number of businesses, education, income, crime rate, and employment rate of Tanauan City. Thus, the hypothesis was rejected at the 0.05 level of significance. This goes to show that as the port revenues increases, then the indicators also increase. The results implied that 99.0, 98.5, 97.6, 93.2, and -91.5 percentages of the variability may be attributed as indicators of port revenues. In general, the statistical findings revealed that the socio-economic indicators of selected areas in Batangas Province had significant relationships or possible linking to the Batangas Port Expansion project in terms of port revenues.

4. Implications of the Findings to the Stakeholders

The findings of the study show that the Batangas Port expansion project is linked to the economy and social aspect of the selected areas in Batangas province. The income of seven among the eight areas in Batangas province shows a relationship to the Batangas Port expansion project. This means that the increase in the income of the areas under study except Nasugbu is related to the expansion project. An increase in the education rate in six areas also shows the relation to the expansion project. Relationships are also seen with other variables. The relationship with the two variables mentioned implies the development of the areas. The increase in revenues when managed well can be used for effective projects for the Batangueños making their lives better. The increase in education rate means further progress for the natives as the more educated the citizens the better the living condition would be; improved employment and business in the near future are expected. However, it is also linked to the increase in crime rate in Calatagan, Lipa City, and Tanauan City. It is also linked to a healthy rate of Calatagan. This implies that as these places improve economically with their income, more people come to take advantage of the improvement of these places which results in higher crime and health cases.

5. Conclusions and Recommendations

From the results of the study, the researchers were drawn the following conclusions such as (1) Batangas Port Expansion Project covers Phase I domestic passenger service and Phase

II international cargo terminal. The expansion projects used land areas of two adjacent barangays, Sta. Clara and Calicanto. They have been implemented in 1999 and 2002 respectively and have shown an increasing trend in revenue from 2011 to 2015.; (2) The economy of cities and municipalities under-study has improved in terms of income. Also, the rates of the social aspects, education, health, and crime rate have gone up.; (3) Significant relationship has been seen between the port expansion project and income, and the port expansion project and education in the places under-study.; and (4) The findings have implications for the stakeholders. On the foregoing findings and conclusions, the researchers highly recommend the following considerations such as (1) the findings of this study can be used in planning the projects of the city and the municipal governments including PPA for the benefit of the stakeholders and (2) a parallel study can be done to confirm the results of the present study.

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