THE CONSTRUCTION INDUSTRY IN THE PROVINCE OF ILOCOS SUR: ITS STATUS AND CONTRIBUTION TO PEOPLE EMPOWERMENT

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ABSTRACT

This study presented the compostion and structure of the construction industry in the province of Ilocos and determined or evaluated its impact to the province.

Eleven thousand or 5.19% of the total provincial population are employed by the industry, the fifth most in employment slot, when viewed with other mgjor provincial industries.

In 1993, Wigan, Candon and Santa Maria had the highest income tax collection from the construction industry. The province generated P3,837,284.90 or 2.472% of the total income from the industry alone.

Eighteen percent of the 774 construction workers were able to raise professional children, sixty percent were able to put up their own houses and twenty eight percent were able to purchase their own lots from their mere construction wages.

BACKGROUND OF THIE STUDY

Despite the present economic crisis, we see structurcs built everywhere. from the most simple waiting shcd tothe sophisticated shopping mall. Lots arc subdivided and gradually occupied with establishments. Rice and other farmlands. too. arc converted into residential, commercial or industrial arcas. Sooner or latcr. before wc come to realize it, the countryside shall have bccn dcvcloped, leading to the vision of his Excellcncy, Pres. Fidel V. Ramos on his economic blueprint dubbcd "Philippines 2000", which targets the laying of the foundation for a newly industrialized Philippines towards the turn of the century. This, he said, could be attainable through people power. (Phil. Star, Sept. 1I, 1993).

A group acronymed CONCERN - Consultancy, Organiztion, Communications. Education and Research Network, Inc. (1993:69) explains people empowerment to mean that development will proceed from the economic initiatives of any industrial, community. household firm, cooperative, non- government or private organization or local government unit under a well-functioning market system. This implies that development relics upon markets, entrcprcneurship, innovation and increascd elTorts of the people. The group further enumerates the strategies to achieve people empowerment to be the following:

l. Development of human resources. There must be an increascd investment in human capital through education, training, improvedbasic serviccsin health and nutrition, increascd access to productive resourccs, and diffusion of technology.

2. International competitiveness. The country must be able to produce world-class products and services in both the domestic and international markets, creating new jobs, labor skills, managerial techniques and other innovations.

3. Sustainable development, The future generations must not suffer from the consequences of the present generalions affecting the environment in pursuit of development.

The construction industry has lots of potentials in attaining people empowerment. Its manufacturing. materials dealership, labor and equipment sectors provide an effective market for an efficient exchange of goods and services. This will increase the per capita income, and consequently, an accelerated economic growth for the whole citizenry. Its contracting sector allows entrepreneurship to flourish which has been foreseen to bc a powerful tool **to** hasten economic development. The research and development sections of the more equipped contractors are the country's pacesetters for new and modern technologies and innovations in the industry. Moreover, construction-related organizations like the Philippine Institute of Civil Engineers (PICE), Association of Structural Engineers in the Philippines (ASEP). Philippine Society of Mechanical Engineers (PSME), United Architects of the Philippines (UAP) to name a few (CIAP Repon, May 1990) are established to constitute the backbone of professionals to keep attuned with the present trends of technology for the growth and advancement of the construction industry in the Philippines. They provide the investment in human capital, through the seminars, conferences. trainings and crash courses they conduct to enable more technological enthusiasts to compete with the global race. Hence. with this industry, this nation. through people empowerment will have a long way to go.

People empowerment should start from within. Unless each individual realizes that the struggle against social and economic crisis is personalized, people **empowerment** is never attained. Each one must be ignited on his potentials, then use them to sustain himself and his family, and consequently, to become self-reliant.

OBJECTIVES OF THE STUDY

This study ventured to unveil the status and impact of the industry to the people of Ilocos Sur.

This research work attempted to discover the structure and composition of the construction industry in the province. It further tried to interrelate the components identified.

On the other hand, this study also tried to assess the impact generated by the industry from the points of view of: a) employment, b) taxes, and c) development.

SCOPE AND DELIMITATION

The research project focused its attention to the twenty lowland municipalities of Ilocos Sur situated along the Manila North Road.

The fourteen upland municipalities (Provincial Profile, 1990), commonly known as the interior towns of Ilocos Sur, were purposely disregarded from the study due to the fact that no contractors and construction-related business existing there. Geographical and historical conditions of the said municipalities force them to rely upon their "parent town" for their major purchases and business related activities.

This research further focused most on the contractors and self-employed construction workers, they, having the greater involvement in any construction undertaking.

OPERATIONAL DEFINITION OF TERMS

The following terms are defincd as they were used in this study.

Client. Any individual or group of individuals responsible for creating demand for construction and the market for professionals such as architects, engineers, suppliers of materials, equipment and other related resources (CIAP Report, p. 25)

Contractor. Any individual or group of individuals who undertake for a stated price, performance of a construction project for clients. (Dunham, et al:4)

Construction Appurtenances. Subordinate parts, adjuncts or accessories necessary for the completion of a structure like balusters. window sash. jambs. and sills, stair railings, decorative grilles. etc.

Construction Industry. An entreprencural undertaking which provides technical, technological and professional assistance or services including the materials and facilities needed for the ultimate purpose of putting up an engineering project.

People Empowerment. The provision by the state of a policy environment to facilitate the pursuit of the people's aspirations and to guarantee democratic dialogue so that development will proceed from their decisions, economic initiatives and increased efforts.

Self-Employed Construction Workers. They are skilled or non-skilled workers hired by clients to work on the construction projects for varied roles like those of the foreman, mason, steelman, leadman, carpenter, plumber. electrician or mere laborer.

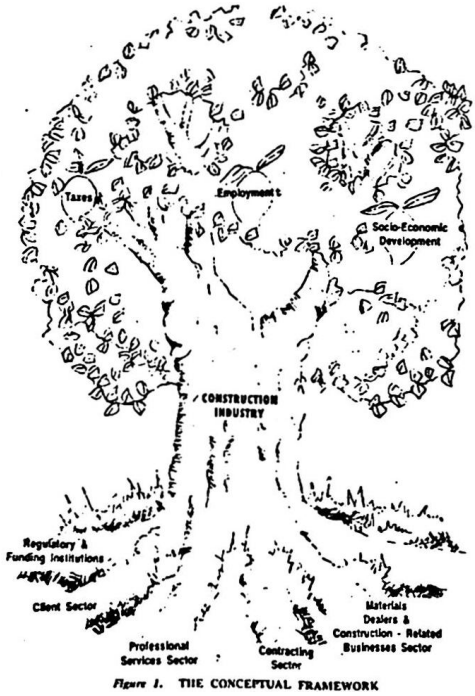


Figure I. THE CONCEPTUAL FRAMEWORK

Figure I. The Conceptual Framework

Construction-related Businesses. These are small scale industries or services to provide appurtenances in construction.

SIGNIFICANCE OF THE STUDY

Many are involved in the industry. Yet, so few arc aware of its impact to socicty. This study will provide a general information about the industry. And from the information derived from this research, the local government may bc guided to formulate measures regulatory to the industry and to pass them for reforms and improvement of its management considering the number of people who depend on it for living.

METHODOLOGY

The study made use of the descriptive method of research.

To unveil the structure of the construction industry of Ilocos Sur, interviews with authorized agencies like the Department of Public Works and Highways and the Provincial and Municipal Planning and Development Offices were conducted. The researcher further showed the interrelationship of cach component of the industry by constructing diagrams.

The second task of assessing the contributions of the industry to the province was accomplished by: a) distributing questionnaires to the different contractors residing in Ilocos Sur and lo selected self-employed constmction workers throughout the province; b) digging into records of taxes paid out of local businesses. These information/data are furnished by the offices of the Municipal Treasurers of Ilocos Sur, as well as of the Provincial Accountant and the Bureau of Intemal Revenue in the capital town of Vigan.

POPULATION AND SAMPLE

Respondents of the study were two groups: 1) the Ilocos Sur contractors taken in *total* enumeration, and 2) the self-employed construction workers selected at random. Only thirty percent of the total number of barangays in each municipality were chosen, from which five respondents for each barangay were taken.

STATISTICAL TREATMENT OF DATA

According to Ardales, (1992:89) observations or responses which essentially arc similar. should be put together into a class or category, making possible the quantification and simplication of the analysis. This is then the basis of grouping various responses of the respondents into classes or categories. Actual frequency counts were made. and the most recurring class represented the majority of the population.

ANALYSIS OF THE RESULTS

On the Status of the Construction Industry

The following components of the constmction industry were identified as:

1. Client sector. private and public (CLS)
2. Professional services sector (PSS)
3. Contracting sector (COS)
4. Material dealership sector (MDS)
   a) Constmction-related businesses (CRB)
5. Equipment dealer/rental sector (EDS)
6. Self-employed construction workers sector (SECWS)
7. Other sectors to include regulatory agencies and lending/financing institutions.

There arc three main participants of a constr ucti on ventur e, namely: the client, the designer and the builder. The client initiates the project. The designer is one individual or groups of individuals from the professional services sector. The bu i lder, similary, could be one individual or a group of individuals from the contracting sector.

The professional services sector is composed of those architects or engineers who offer professional scrvices for designing and consultancy.

The contracting sector is primarily responsible for putting together all the necessary resources r equircd to complete a constr uction venture.

Constr uction-rclated b usiness enterprises were represented under the scctor of material dealers because by their nature. they form part of the app urtenant construction inputs.

The researcher classificd constr uction related businesses into: I) construction-related industries. and 2) constr uction related services.

The identified constr uction-rclatcd industries existing in Ilocos Sur are concrete hollow block (CHB) making. concrete by-products manufacturing, tile making and sash factory. About forty entrepreneurs were identified thr oughout thc province.

Constr uction-related services, on the other hand, are thosc put up to cater services appurtenant to constr uction like iron works, marble craft, woodcraft, glass and aluminum supply and sand and gravel delivery. About sixty business establishm ents of this type appear on the researcher's survey.

The self-employed constr uction workers are th osc independent individuals. with no connection to any contractor offering services for any project, who are not necessarily under contract. They may serve as foreman, carpenter, mason, steclman, plumber, electrician or mere laborer.

The personal information of the respondents shows that in Ilocos Sur, most of the constr uction workers are within the age bracket of 39 to 42. Majority of them started working on construction projects at ages 18 to 20, with 22-24 years length of service.

Most of the construction workers are within the age bracket of 39 to 42. Majority of them started working on construction projects at ages 18 to 20, with 22-24 years length of service. Thc oldest respondent is 77 years old from Sinait, while the youngest is I5 years old, from Santa Cruz. Likewise, the worker with the most number of years in service is also from Sinait. He started working at age I5. Now he is 70, with 55 years of hard and fm itf ul service.

Regulatory bodics arc those agcncics or organizations that set criteria to be adopted as standards of a project. Their role is to ensure safety during construction, as well as when the projcct is already in operation.

Funding institutions may or may not be part of the constr uction process. Their participation is mainly influenced by the client. If the client's capital is not enough, he may seek the aid of a lending instit ution, hence, the bank or lending agency enters into the scene.

Varied relationships exist between and among the components of the constr uction industry. But the researcher presented only the two most common interactions for easier understanding of the non- technical readers of this study.

The client (CLS) always initiate a constr uction project. Fisk (1988: 4) cxplains that through the hired services of a designer (PSS), the clicnt participates in thc project

by setting his criteria for design, cost and time of completion and by providing decision-making inputs. The designers interpret the clients' ideas through plans and work drawings, satisfy, their particular needs, and at the same time adheres to prescribed standards.

A construction project, according to Mead, et al (1978:160) can be carried out by direct employment or by contract.

By direct employment, the client purchases all materials, hires construction workers, does all pertinent transactions and supervises thc construction cither directly or indirectly. Sce Figure 2.

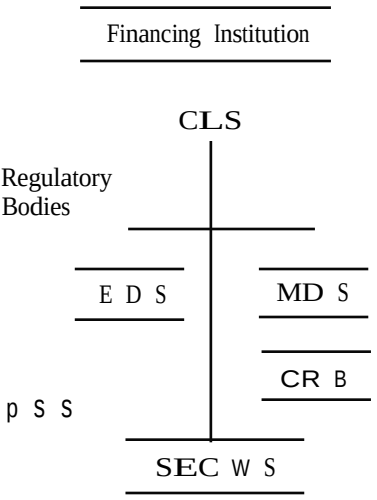


Figure 2. Organizational Structure of the Construction Industry by Direct Employment

Financing institutions enter into the scene if the client secks for outside funding.

When the client opts to carry out his project by contract, he advertises the project, holds public bidding and evaluates the bids, after which he chooses the contractor who will implement the project. See Figure 3. The self-employed construction workers are not placed under the contractor **because once** hired by the coritntctor, they **cease to be** on their own. Rather, they fall within the contractors' realm. They were presented betveen client and the designer to show that any time, they could be hired by anybody to do some construction jobs, not necessitating to be on contract.

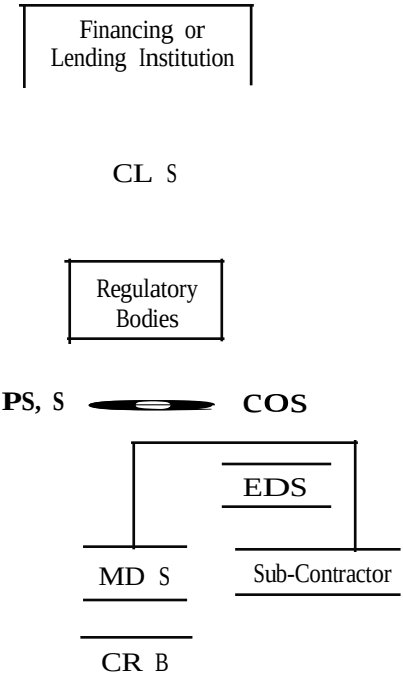


Figure 3. Organizational Structure of the Construction Industry by Contract

On the Impact of the Construction Industry

This research work identified three outputs of the construction industry, namely: I} employment. 2) taxes and 3) development.

An approximate number of those employed with the construction industry is given by Table 1.

Table I. An Approximate Number of Employment With The Construction Industry of 1locos Sur

Sector	Number
A. Client	
Municipal Engineers' O[Tice	34
Municipal Planning & Development Coordinators	40
Provincial Planning & Development O[Tice	17 •
Provincial Engineers' OfTicc	68
1st Ilocos Sur Engineering District	114
2nd Ilocos Sur Engineerine District	200
Private	1,250
B. Professional Services	150
C. Contractor	22
Personnel	200
Labor Force	600
D. Materials. Constr uction-Rclatcd Business Sector	2,000
E. Equipment Dealer/Rental	37
F. Self-Employed Construction **Workers**	6,250
Total	10,982

w Casuals are not included

The researcher's survey results are in consonance with the data furnished by the National Statistics Office. Vigan (NSO). Eleven thousand arc presently employed by the construction business, as of July 1993.

Based on the same cut-off period, Ilocos Sur has 212,000 employed residents. This means that 5.19% of the total employed arc being nurtured by the industry.

The following bar chart compares the employment count of thc major industrics existing within the province, The construction industry has the fifth largest employment slot.

On Taxes

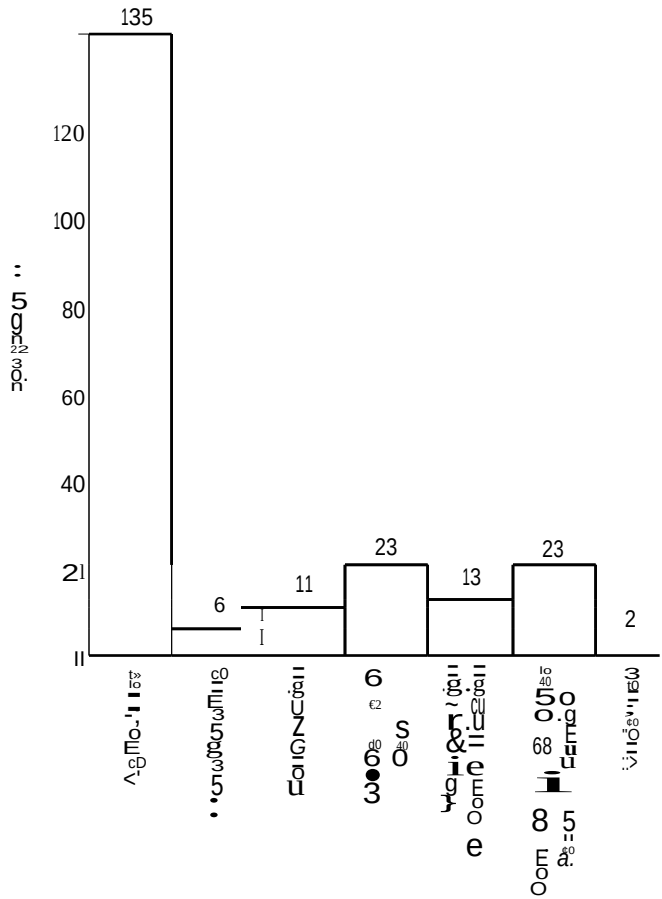
By Contractors

Furnished by the Municipal Treasurers of the twenty (20) lowland municipalities of Ilocos Sur, as well as the Revenue District O[Ticer, Bureau of Internal Revenue, Vigan, hereunder listed in Table2 are the municipal and value-added taxes paid by the contractors, authorizing them to operate.

By Material Dealers

Table 3 shows a summary of taxes collected from dealers of construction materials, by municipality, from 1990 to 1993.

EMPLOYMENT COUNTS **BY MAJOR** INDUSTRIES
Second Quarter„ 1993



Major Industries

Source: National Statistics Office
Virgin Islands Sur

Table 2
Municipal and Value-Added Tax

			MUNICIPAL TAX			VAT (BIR)							
			1991	1992	1993	1991	1992						
3	By Contractors												
1.	Joseph Azurin Const.	Vigan	2,357.00		1,000.00	2,500.00	-	804.50	-	-	2,367.00	5,084.50	1,000.00	2,500.00
2.	Vigan Fortune Const.	Vigan	39,376.25		34,130.00	35,495.00	-	-	-	-	39,376.25	92,874.00	34,130.00	35,495.00
3.	Blue Dragon Const.	Vigan	18,389.35		1,132.00	6,945.00	16,130.17	20,252.67	8,124.85	33,416.95	34,519.52	35,580.67	9,256.85	40,361.95
4.	Progressive Design & Const.	Vigan	-		194.00	2,060.00	N/T	993.41	4,596.00	12,495.93	-	993.41	4,790.00	14,555.93
5.	Architekton Const	Vigan	5,565.00	5,535.00	5,565.00	5,565.00	69,511.00	41,043.41	10,036.85	8,809.54	75,076.30	46,578.41	15,601.85	14,374.54
6.	SATRAP Const. Co. Inc.	Vigan	2,235.30	-	10,865.00	-	19,759.47	19,328.69	25,731.25	N/T	21,994.49	19,328.69	36,596.25	-
7.	GSQ Construction	Vigan	7,065.00	7,725.00	7,055.00	5,455.00	-	-	-	-	7,065.00	7,725.00	7,055.00	5,455.00
8.	Oriental Brothers Const.	Vigan	16,395.00	18,415.00	-	10,865.00	-	-	-	-	16,395.00	18,415.00	-	10,865.00
9.	Three A's Const.	Vigan	-		-	-	85,522.59	39,167.52	40,301.62	39,319.08	85,522.59	39,167.52	40,301.62	39,219.08
10.	Three Star Const. & Dev. Corp.	Vigan	-		-	-	5,870.00	105.00	N/T	N/T	5,870.00	105.00	-	-
11.	8.88 Const. & Devt. Corp.	Vigan	-		-	5,615.00	-	8,165.39	12,375.78	22,466.37	-	8,165.39	12,375.73	28,081.37
12.	William Peralta Const.	Vigan	-		-	-	4,365.75		CLOSED		4,365.75			
13.	H.A. Rivera Const.	Vigan	-		-	-	-	1,594.93						
14.	JCM Construction	Sto. Domingo	-		-	-	25,882.09	58,750.95	23 DEC 92				29,602.18	71,479.32
15.	J.A. Leones Const.	Santa	-		990.00	-	-	-					990.00	-
16.	Erecticon	Sta. Maria	-		-	626.00	-	-					-	626.00
17.	W.D. Mendoza Const.	Sta. Maria	-		3,566.00	4,566.00	14,265.48	10,622.60	13,973.81	35,640.26	14,265.48		17,539.87	40,206.26
18.	MBB Construction	Sta. Maria	-		1,856.00	-	-	-	-	-	-		1,856.00	-
19.	FBT Construction	Narvacan	-		385.00	-	-	8,503.79	13,633.76	28,263.04	-		14,018.76	28,263.04
20.	Cabugao Const. Corp.	Cabugao	-		10,000.00	-	-	-	-	3,250.89	-		10,000.00	3,250.89
21.	FNDCC	Candon	-		-	44,203.44	635.92	1,000.00	Tax Credit	N/T	635.92		1,000.00	44,203.44
22.	Yakal Lumber & Comm. Devt. Corp.	Candon	-		-	22,000.00	-	-	-	-	-		-	22,000.00
23.	RTG Construction	Bantay	7,500.00	5,950.00	5,960.00	10,040.00	Tax credit	1,000.00	8,854.26	1,007.86	7,500.00	6,950.00	14,814.26	14047.86
24.	Solid North Const. & Devt. Corp.	Bantay	-	-	-	5,640.00	9,836.40	10,396.40	16,568.27	N/T	9,836.40	10,396.40	16,568.27	5,640.00
25.	AEJ Construction	Sta. Cruz	250.00	250.00	250.00	250.00	-	-	-		250.00	250.00	250.00	250.00
26.	Jose Ping-ay Const.	Sta. Cruz	250.00	250.00	250.00	250.00	-	-	-		250.00	250.00	250.00	250.00

Can't be identified because VAT payments include other businesses.

N/T - No Transactions

Table 3. Summary of Municipal Taxes Paid by Material Dealers, **By Year**

Municipality	1990	1991	1992	1993
Cabugao			50,925.00	
Santo Domingo		2,000.00	2,250.00	1,200.00
San Juan		130.00	1,747.50	
Magsingal				2,300.00
Bantay	3.855.00	3,920.00	10,080.00	9,890.00
Vigan	197,794.00	273,974.00	262,096.00	334,024.28
Santa		13,950.75		9,050.00
Narvacan	26,977.00	28,318.00	24,800.00	36,842.00
Santa Maria				12,745.00
Candon	4,550.00	42,860.05	54,784.05	133,178.50
Santa Lucia	2,200.00	2,200.00	2,700.00	2,900.00
Santa Cruz			350.00	350.00
Tagudin	1,870.00	1,870.00	5,760.00	7,140.00
Total	237.246.00	369,222.80	415,492.55	549,619.78

Table 4. Summary of Municipal Taxes **Paid** hy Entrepreneurs of Construction-Related Industries

Municipality	1990	1991	1992	1993
Sinait	1.179.54			
Cabugao			7.405.00	
San Juan		1.100.00	930.00	970.00
Magsingal		220.00	660.00	1,080.00
Santo Domingo		450.00	900.00	700.00
San Vicente	50.00	100.00	100.00	100.00
Santa Catalina	140.00	140.00	200.00	405.00
Bantay		210.00	1,260.00	2,660.00
Vigan	3,872.50	4,882.50	4,674.50	5,092.50
Santa		176.00	941.00	665.00
Santa Maria				1,100.00
Candon		1,172.00	1,492.00	1,670.00
Santa Lucia	1,800.00	1,800.00	2,400.00	2,400.00
Santa Cruz		150.00	150.00	150.00
Tagudin	250.00	1,170.00	1,919.00	1,977.00
Total	7.502.04	12,620.50	24,431.50	16,309.50

Table 5. Summary of Municipal Taxes Paid by Entrepreneurs of Construction-Related Services

Municipality	1990	1991	1992	1993
Bantay			720.00	
Cabugao			1,880.00	
San Juan	715.00	1,120.00	2,810.00	1,865.00
Magsingal		800.00	810.00	1,580.00
San Vicente	50.00	100.00	100.00	
Santa ,Catalina			100.00	100.00
Vigan	2,281 50	3,979.00	5,263.80	7,315.90
Santa			725.00	
Santa Maria				390.00
Candon		350.00	380.00	
Tagudin	4,620.00	5.150.00	8,315.00	9,255.00
Total	7,666.50	11,499.00	21,103.80	20,505.90

By Construction-Related Industries

Table 4 summarizes the collected taxes paid by entrepreneurs of construction-related industries by municipality from 1990 to 1993.

By Construction-Related Services

The summary of taxes collected from entrepreneurs of construction-related services are shown in Table 5. by municipality. still from 1990 to 1993.

A summary table, summing up all the collected taxes from each municipality, is shown in Table 6. Vigan, the capital town, is the top grosser among the twenty municipalities. The list shows that Vigan's highest collected taxes from the industry alone is in 1991 inthcamount ofP558,448.02.

When viewed from a provincial perspective, the highest collection of taxes from the construction industry, was in 1993, with the amount of P3,837,284.90.

C. On Development

1. Educational

I.I.I The Self-Employed Construction Workers

i) Their Educational Attainment

Eighty-three percent of the workers are married so that education is. perhaps. no longer their first priority. This could be a reason why very few of them attempted to seek for a higher level of education. Most of the workers are high school graduates. Nevertheless, eight of them tried to raise their level of education through their earnings as construction workers. Two of the eight workers are graduates of civil engineering while *the* rest ended up in the first and second year of college. Table 7 summarizes the change in their educational attainment before and after engaging in constmction.

Table 6

Construction Industry Against Each Municipality Generated by the

Municipality												
Sinait	2709303.14		3356303.74			4963426.51			20647.57	8142646.39	0.254	
Cabugao	6049788.64		5307456.47		70210.00	4767081.72			3250.89	8747960.48	0.037	
San Juan	1787368.96		2493498.49	0.094	5487.50	3420567.92			2835.00	6115236.00	0.046	
Magsingal	2753841.85		3648654.74	0.028	1470.00	4476281.36			2650.00	7277663.36	0.037	
Santo Domingo	2113207.62		3034656.30	2.017	42092.50	4613208.69			73969.32	7502597.83	0.986	
San Ildefonso	495853.12		640608.78			1630226.35			773.85	3113750.00	0.025	
Bantay	1933084.75		2252540	0.864	67368.93	3540859.70			29577.86	6242479.24	0.474	
Vigan	8710115.79		5384480	5.541	433141.60	12422198.45			537440.55	17693624.57	3.037	
San Vicente	1175917.73		200.00	0.011	4276.27	2512875.70			5624.10	4553269.75	0.121	
Santa Catalina	934921.29		6746.00	0.432	10445.17	2352886.67			505.00	4061758.00	0.012	
Caoayan	1019724.38					2641075.08				4599790.70		
Santa	1093049.96					2835251.39				4125.54	5872922.87	0.705
Navacan	3636295.46					7688686.80				79105.04	13579430.00	0.583
Santa Maria	2738027.92					5124139.92				99850.99	9051779.00	1.103
San Esteban	728270.02					1878538.00				1955.06	3674775.96	0.053
Santiago	1157717.45					2939320.22				1971.21	5271141.00	0.037
Candon	5427997.83					8905730.70				201051.94	15446497.81	1.302
Santa Lucia	7948612.23					4147405.00				5300.00	6521556.00	0.081
Santa Cruz	4187705.34					5998811.58				19023.01	9661197.00	0.220
Tagudin	3384506.58					5675435.92				18372.00	8948322.00	0.205
Total of Mun.												
Tax & Mun.												
Projects W/H												
Taxes												
Add: W/H Taxes												
from Prov. Proj												
Add: W/H Taxes												
from Natl Proj.												
GRAND TOTAL										3837284.90	155212498.00	

Table 7. Change in Educational Attainments of Eight Construction Worker Before and After Engaging in

Worker	Educational Attainment Before	Year	After	Year	Percent Contribution of Wages Over Education
	BSCE IV	1970	BSCE V	1972	50%
2	High School	1979	BSCE	1988	20%
3	Grade VI	1973	1st yr. col.	•	50%
4	High School	1971	2nd yr. col.	•	50%
5	High School	1970	1st yr. col.	1972	50%
6	High School	1975	2nd yr. col.	1978	50%
7	High School	1978	2nd yr. col.	1981	50%
8	High School	1978	Isl yr. col.	1980	50%

w not included

ii) Their Attended Trainings, Seminars and Vocational Courses

Only a few of the construction workers attendcd seminars and trainings. Before 1990, eighteen workers went into trainings in Santa Maria. eleven in Vigan, seven in Santiago. four in San Juan, three in Sinait. two from Santa Catalina. and one from Santo Domingo.

From 1990 to 1993, only four workers from Vigan and Santiago underwent training.

Likewise, the construction workers attended only few seminars. Before 1990. Narvacan has the most with eleven, four from Santa Catalina, three for Vigan and Caoayan, two from Santa Maria and Santiago, and one from Candon.

In 1990 to 1992. only three workers from Vigan and Narvacan attended seminars. While in 1993, nine from Narvacan, one from Sinait, San Juan and Caoayan attended seminars.

The respondents seem to prefer vocational courses to formal education. Thirty-two of them took vocational courses like, electronics, automechanics, tailoring, etc. Table 8 slows the details.

Table 8. Distribution of the Thirty-Two Construction Workers With Vocational Courses by Educational Attainment

Level of Education	Number Wage to Voc. Schooling	Ave. % Contribution of
Elementary	8	50
High School	22	60
College Level	2	100
Total	32	

I.1.2 Their Spouses

If only a few among the construction workers attempted to seek educational upliftment, much more so with the wives. Table 9 shows that majority of the wives are high school graduates. Oily one is identified to have finished college through the wages of the husband who is a construction worker. The wife was a Bachelor of Elementary Education (BEED) undergraduate in 1952, and graduated in the same course in 1964 through a 20% wage contribution of her husband.

Like the workers, the wives attended few seminars. Before 1990, only two wives have seminars in San Juan, Vigan and Santiago. In 1990 and 1991, two from Vigan and San Juan went into seminars while other towns have none. In 1993, only one wife had a training in Vigan and Santa respectively. Nobody underwent training in 1992 and in 1993, only one from Vigan availed training services.

Taking vocational courses has been an obvious preference among the wives. Thirty-nine of them took vocational courses like Hair Science, Cosmetology and Tailoring/Dressmaking. Table 9 represents the wives with vocational courses as their present educational attainment.

Table 9. Distribution of the Thirty-Nine Wives of Construction Workers With Vocational Courses as their Educational Attainment

Level of Education	Number	Ave. % Contribution of Husband's Wage Towards Schooling
Elementary	9	50%
High School	26	30%
College Level	4	20%
Total	39	

1.1.3 The Children

The personal information of the respondents revealed that most of the workers, 70% have 2-5 children. Two percent have no children, about thirteen percent have only one child, and only one percent have ten to eleven children. Since the workers' ages range from fiftccn to scvcnty-seven, their children are of varicd ages: pre-schoolers. graders, high school. college and college graduates.

Elementary

The results of the survey show that in the elementary level most of the construction workers can shoulder 100% of their children's education. This is logical, owing to the fact that elementary education is not expensive in the public schools. The following table shows the distribution of the children sent to school by percent contribution brackets of their fathers' wages.

Table 10. Distribution of Elementary Children of Construction Workers by Wages **Percent** Contribution Brackets

Percent Contribution of Wages Towards Child's Schooling (in percent)	Number	Percentage
91 - 100	225	38.00
81 - 90	156	26.35
71 - 80	70	11.82
61 - 70	76	12.84
51 - 60	19	3.21
41 - 50	18	3.04
31 - 40	6	1.02
21 - 30	14	2.36
11 - 20	6	1.02
I - 10	2	0.34
Total	592	100.00

High School

The distribution of Table II shows a different pattern of data. Most of the children of the construction workers are sent to high school with seventy one to eighty percent contribution of their father's wages from construction job. This might be due to the *fact* that more expenses are incurred in high school. And the father's wages alone do not suffice to shoulder their children's high school education. Nevertheless, the small earnings of the construction workers made a remarkable contribution for their children's education.

Table 11. Distribution of the High School Children of Construction Workers by Wages Percent Contribution Brackets

Percent Contribution of Wages Towards Child's Schooling	Number	Percentage
91 - 100	20	3.54
81 - 90	35	6.20
71 - 80	195	34.51
61 - 70	131	23.19
51 - 60	26	4.60
41 - 50	64	11.33
31 - 40	46	8.14
21 - 30	22	3.89
11 - 20	20	3.54
I - 10	6	1.06
Total	565	100.00

College

Another pattern of data is revcalcd in Table 12. It is shown that 21-30% of the total school expenses for children of contract workers come from their wages. This implies that with the workers' mcager income, many could not afford to send their children to college. However, one striking fact is further revealcd in table, and that is thirty-nine children could be scent to college by thc mere wages of their fathers. This proves that the workers are determined to raisc professional children amidst hardly sustained cfTons in thcir **work.**

Table 12. Distribution of College Children of Construction Workers hy Wages Percent Contribution Brackets

Percent Contribution	Number	%
91– 1O)	39	I8.40
8I -)0	15	7.08
71 - 80	12	5.66
6l - 70	I0	4.72
51 - 60	19	8.96
41 - 50	25	11.79
31 - 4)	15	7.08
21 - 30	45	21.22
II - 20	21	9.91
I - I0	11	5.18
Total	212	100.00

The survey further discovers that scv-cnty-six children havc already graduated in college as civil cnginccrs, .commerce/ business enthusiasts. nurscs, forcstcrs. agriculturists. nutritionists and teachers.

1.2.1 The Contractors

Most of the contractors arc registered civil engineers. Only about 8% arc graduates of other dcgrcc programs like architcctурc, mechanical engineering. and the like.

Not one of them reported to have advanced in course, or have graduatcd in another related field. although they attendcd rclatcd seminars and trainings to update their knowledge particularly about contracting and quality control.

1.2.2 Their Spouses

Most of the spouses are college graduates. also with different courses likc BSBA - Management, Accounting. BSE and BS Pharnacy. Some of them assist their husbands in the business, while others have jobs of their own.

1.2.3 Their Children

Most of the contractors claimed that the expenses for the schooling of their children arc mostly shouldered by their construction business. Most of their children, therefore, are

already college graduates. while somc arc still in college. some in secondary and clcmcntary levels. Thosc who have gradluatcd arc of varicd degrees like BSC - Management. AB. BSCE. Architecture. and BSN.

1.2.4 Their Personnel

Thc survey shows that the staff of a contractor includes BSCE graduates. BSC- Accounting degrcc holders. a Sccrctary and a Driver. The BSCE graduates assume thc position of project cngincers or ficld engineers when they arc board passers, and as CE aide, if not.

Not one reported to have gone to a higher level of cducation sincc being hired in the construction firm. Nevertheless. most of them are sent to trainings. seminars and conferencces relative to thcir courses. and jobs or fields of specialization.

2) Socio-Economic

2.L.I The Self-Employed Construction Workers

On House Ownership

Shelter is one of thc basic needs of man. As such, the desire to own one is a priority. The construction workers are not exceptions to this fact. Out of the 774 respondents, 447, or about 60%. have their own houses: ninety-one are single and certainly, still live with their parcnts. Thc remaining 23% might be living cithcr with their parents, in-laws, relatives, or in boarding houses.

From the 447 hosc owners, 385 claim that their wages helped with the expenses. Table 13 shows the percent contribution of the wages.

Most of them built thcir houses using 50% of thcir wages while a good number of sixty built their houses utilizing 100% of thcir construction wages.

Table 13 Distribution of the House Owners Ny the Percent Contribution of Their Wages

Percent Contribution Range	Number	Percentage
91 - 100	60	13.65
81 - 90	23	5.15
71 - 80	33	7.38
61 - 70	13	2.91
51 - 60	23	5.15
41 - 50	103	23.04
31 - 40	18	4.02
21 - 30	56	12.53
11 - 20	30	6.71
1 - 10	26	5.81
0	62	13.65
Total	447	100,00

On Lot Ownership

Among thc respondents, only 172 **have** their own lots, owing to thc fact that most of the lots where they built their houses were inherited. Eighty percent of them claim that their wages helped somehow in the purchase of their lots. A good number of twenty-eight purchasd their lots through their wages alone, and twenty-four workers were able to purchase their lots using 50% of their wages.

On Type of Residence

One measure of the socio-conomic improvement of an individual is his type of residence. Except for a few, the type of residence is usually a status symbol in society.

The construction workers identified their residence types according to the following categorics:

Type I - Reinforccd concrete with GI Roofing (permanent)
Type II - Timbcr with GI Roofing (scmi-permanent)
Type III - Bamboo with Cogon Roofing (semi-permanent)
Type X - The state of having no residence

Furthermore. thcy indicated thc change of their residence types after thcy went into constnuction jobs. Table I4 shows those with improvcmcnts. and those who had none.

To following results are revealed:

I. Through their meager salaries, eighteen workers managed to shift from Type III to Type I residence.
2. Thirty workers were able to improve their type III into Type II houses, wherein 50% of the total expenses came from their wages.
3. Twelve workers renovated their Type II into Type I residence from their salaries.
4. Claiming that 50% of the total expenses came from their wages, three workers constructed Type I's and another three constnicted Type II residences.
5. Fifcen constnction workers managed to construct Type III residential houses by their mere wages from their construction jobs.

The workers in number (4) and (5) had no residences of their own before thcy went into constnction.

On the other hand, those two hundred six workers who claimed not lo have improved at all could simply mean that they did not have such major improvements. They somehow used a certain percentage of their wages for minor house repairs and maintenance.

Table 14. Distribution of Construction Workers With Houses by Percent Contribution of Their Wages to the Change in Type of Their Residence

% Contribution of Wages	With Improvements					Without Improvements			
	Type III-I	Type III-II	Type II-I	Type X-I	Type X-II	Type Xx-III	Type Ill-Ill	Type 11-11	Type I-I
91 - 100	18	11	12	2	I	15	13	0	0
8I - 90	5	3	3	2	0	0	8	11	1
71 - 80	10	3	5	0	0	3	10	2	4
61.- 70	4	2	2	I	0	I	4	20	I
51 - 60	2	14	3	I	0	1	20	6	3
41 - 50	8	30	9	3	3	8	13	11	6
31 - 40	6	3	4	0	0	0	4	5	12
21 - 30	9	8	3	0	I	0	10	5	9
11 - 20	4	3	4	0	0	0	5	5	9
1 - 10	5	2	3	0	0	I	5	4	0
Total	71	79	48	9	5	29	92	69	45
Grand Total				241					206

On Acquisition of Appliances/Properties

The number of properties owned is another ocular measure to establish how high an individual climbed the economic ladder, which in turn, indicates his status in society.

A survey of the properties owned by the construction workers are summarized in Table 15.

Table 15. Distribution of Construction Workers With Appliances by Wages Percentage Contribution

Contribution of Wages	TV	Elec. Fan	Radio	Pump	Beta/ VHS	Cassete Tape Rec.	Sala Set	Dining Set	Kit. Wares	Other Prop.
91 - 100	30	29	61	37	6	27	32	53	28	17
8I - 90	10	6	9	8	1	4	5	8	8	1
71 - 80	6	9	21	6	1	6	14	19	I6	2
61 - 70	1	I	4	3	I	I	3	5	5	I
51 - 60	3	6	11	5	I	2	2	7	5	1
41 - 50	25	13	23	26	5	10	22	19	25	9
31 - 40	2	I	8	7		8	4	9	6	2
21 - 30	10	6	17	8	2	II	16	1I	35	2
11 - 20	11	8	27	5		6	15	15	22	I
I - 10	17	17	37	24	5	I6	23	31	20	8
0	43	25	57	43	7	12	29	54	38	5
Total	158	121	275	172	29	103	165	237	208	49

The survey suggests that the construction workers prefer radio, dining set and kitchen wares over the rest of the appliances cnumerated. This might bc due to the fact that they find these to be useful in their daily needs.

Other properties owned by the workers were reported to be tools they used in their jobs, animals for the farm. and personal belongings likc clothings and jewelries.

On Change of Residence

Most of the workers live in the barangays within the pieces of land tilled by them. About 65% arc farmers. 21%are near coastal plains, while 14% are in the poblacion.

Change of residence due to economic reasons was very minimal. A small number of about 3% of the respondents changed residence inordcr to get closer to their work. while 8% changed residence due to the purchase of a new house and lot.

2.2.I The Contractors

On House and Lot Ownership

Bccausc most of the contractors are financially well-off. they already own their houses and lots prior to their contracting business, except for those who are new to the business. Reportedly, about 8% improved their houses, 10% of all expenses came from their salaries.

On Acquisition of Appliances/ Properties

Inasmuch as majority of them already own a complete sci of house appliances, they prioritize for the purchase of motor vehicles and construction equipment which they need for the business. The respondents claim that they were able to purchase such using 30 - 100% of their contracting profit.

To those who are new, the appliances they purchased using IO - 70% of their income are betamax/ VHS, generator, electric pump and refrigerator.

On Change of Residence

Aimost all of the contractors are living in the poblacion or in urban areas of the province. Nobody claimed to have changed residence, from then on since the place is very conducive to their business environmental requirements.

2.2.2 The Contractors Personnel

On House and Lot Ownership

Lots arc mostly inherited, hence the contractor's personnel only attend to their house's construction. Majority of them estimated only about I0 - 30% of the expenses coming from their salaries.

On Purchase of Appliances/ Properties

The personnel were able to purchase the following: television, betamax/VHS, dining set, kitchen wares, furnitures, including the saving of a little amount for the capital for a family business. The ranges of their salaries' contribution are 10 - 70%.

On **Number of Structures Worked On**

The results of the workers' sweat and blood: the construction projects

Table 16
The Number of Infrastructure Project Worked on By Year

they' have worked on. In effect, the number of structures they have constructed could be'a basis way of assessing their technical experience. The survey finally would look into those projects, listed in Tables 16 and 17.

Most of the construction workers were more exposed to residential houses than to public and socio-commercial buildings. This is because there are only a few public and socio-commercial types of establishments in the province. In the 1989 census of buildings (NCSO. Vigan) Region I, to which Ilocos Sur belongs, is the fifth smallest in number of buildings.

Regarding infrastructure projects, the workers have worked more on roadway projects than on bridges, airports, irrigation and flood control projccts. This further suggests that the province is not yet that industrialized to nccd airports, and flood control systems, irrigation systcms and waterwork systems. since the presence of such structures, in a way. indicates thc degree of industrialization that had penetrated a place.

Implications to Socio-Economic Development

The foregoing presented findings of this study seem to reveal the following implications:

I. Eighty-three percent of the workers are marricd:

Getting married is onc state of life which demands a lot of self-denial, just to maintain a decent family lifestyle. As a consequence. in one way or another, marriage, to those who arc not prepared to face it, is an impediment to onc's own growth and development. Poverty could be one big reason for being unable to finish college. But to some who are determined to acquire a college diploma, poverty is not a hindrance. Getting married should be postponed to allow the torch of education light one's path towards a brighter tomorrow.

2. Seventy percent of the workers have 2-5 children

It was an observation that among the poor, the growth rate is high. A couple would bear 7 to 12 children -a number impossible to clothe, protect and educate, because feeding them could even be hardly done. The above finding reveals that somehow the government's campaign for family planning has penetrated the low income brackets of our society. Nowadays, more and more are getting to realize the need to limit the number of children commensurate to the number they can upbring with their "loving tender care". With this good sign of responsible parenthood awareness, someday. the "hand-to-mouth" existencc will gradually vanish from our economic dictionary.

3. The construction workers can shoulder 100% of their children's expenses in the elementary, 71-80% in high school, only 21-30% in college. However, a remarkable 20% of the respondents shouldered 100% of their children's college expenses from their mere construction wages.

The survey results on the education of the workers' children imply their determination to raise professional children to upgrade their present state of life, they, being deprived of education. This is a good sign of a strong motivation for better life development. Their children must not suffer

the same difficulties and problems that they have gone through.

Majority of them have alrcady **realized** what education can do for self-improvement and liberation from poverty. **To be** truly empowercd everyone must be educated so that human potentials and capacities are developed for self sufficiency. (Speech of Pres. Ramos at the Educator's Congress, May 1994).

4. About 60% of the respondents own their houses. 80% claim that their wages helped in acquiring lots and appliances. All contractors and their personnel own their houses.

The peak of construction demand occurs during dry scason and lowest during the wet season. This fluctuating nature of construction jobs and projects sometimes cause the difficulty of maintaining self-sufficiency. Yet, they see to it that they have a house of their own, no matter how humble it is and no matter how long will its construction lasts. This signifies their love of independence and freedom from any one's domination. Ultimately, they strive for self-reliance and self-sufficiency.

5. Majority of the contractors prioritize for the purchase of motor vehicles **and** construction equipment, using about 30-100% of their contracting profit.

Abraham H. Maslow (1981:183) claims that man has a hierarchy of needs. The physiological necds must first be satisfied prior to other needs. The contractors are no exception to these phenomena. Man, as a social being, never feels satisified in his wants. In the quest for this dynamics needs' satifaction, be in the process, shapes his social status in society

SUMMARIES AND CONCLUSIONS

I. Eleven thousand or 5.19% of the province's labor force are employed with the construction industry.

2. The construction industry generated of 0,345% of the provincial income in 1990, 1.853% in 1991, 0.879% in 1993. Such percentages could have **been higher** if not due to the following factors:

a) Misplaced records of payment;
b) Unidentified tax payments because the contractor had a single payment for a number of business enterprise; and
c) no payment made at all.

3. a) Most of the contractors and self-employed construction workers did not seek for a higher educational level. Opportunity is mostly geared towards the children.

b) Majority of the self-employed construction workers put up their houses with their wages in the construction. Only a few were able to purchase their lots with their wages, while a good number claimed to have inherited them.

c) The self-employed construction workers preferred to the acquisition of radios, dining sets, kitchenwares to televisions, electric fans and sala sets; while the contractors' focus seemed to be on the purchase of motor vehicles and construction equipment.

d) Only in rare cases like in the purchase of new houses and lots and to get closer to the place of work were reasons for change of residence among the construction workers; nevertheless, none among the contractors changed the location of their residences.

e) Thesclf-employed construction workers had worked more on residential houses than on any other type of construction.

4. Facts above present thc significant impact of the construction industry on the population ofthc province of locos Sur and of its municipalitics.

RECOMMENDATIONS

The following recommendations arc made for by government authorities concerned:

A. Municipal Level

I. There must bc a more strict implcmentation of municipal tax collcction measures where rcgulatory procedures must be enforccd, and more systematic filing and recording techniques should be adoptcd. especially at the municipal treasury section.

2. All constmction projects must be categorized as major or minor by the Municipal Engineer. based on the range of thc project costs, public or private. Major projects should necessitate the supervision of a licensed architect or engineer who will assist the municipal engineer to determine the volumc of labor demand.

3, There must be an organization of construction workers in every municipality, with the Municipal Engincer as the facilitator.

a) To determine labor prospects in case of demands, adopting labor routines if practically advisablc to benefit everybody:

b) To provide an avenue for resolving conflicts and problems **arising from the workers**' constmction undertakings which greatly affect thcir interests;

e) **As a** means of easy contact in cases of trainings, job opportunitics, seminars and others.

d) As a medium for giving awards and merits to workers for jobs satisfactorily accomplishcd, length of service, and other incentives.

e) An effective source of information regarding labor productivity rates, which should be improved. to the advantage of employers and estimators.

B. Provincial Level

I. Sorting out of VAT payments for each business for purposes of details to provide room for analysis and other related activities.

2. Conduct more trainings and seminars for contractors and construction workers to enable them to update their knowledge and to encourage them to acquire more skills and proficiency in their work.

3. The provincial government should look into more privileges and benefits of construction workers **like** availing them of the SSS benefits, **like** insurance. pensions. medical/hospitalization and other blessings, while still in the course of duty and even during their retircmcnt.

4. There must bc a selected group of tcchnical men to monitor the constmction industry in **the prov**ince of llocos Sur.—

C. For Construction Industry Owners

1. The results and findings of this study must be disseminated to construction industry owners in the form of a convention/conference for general orientation about demands. nccds and problems relative to the industry.

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