

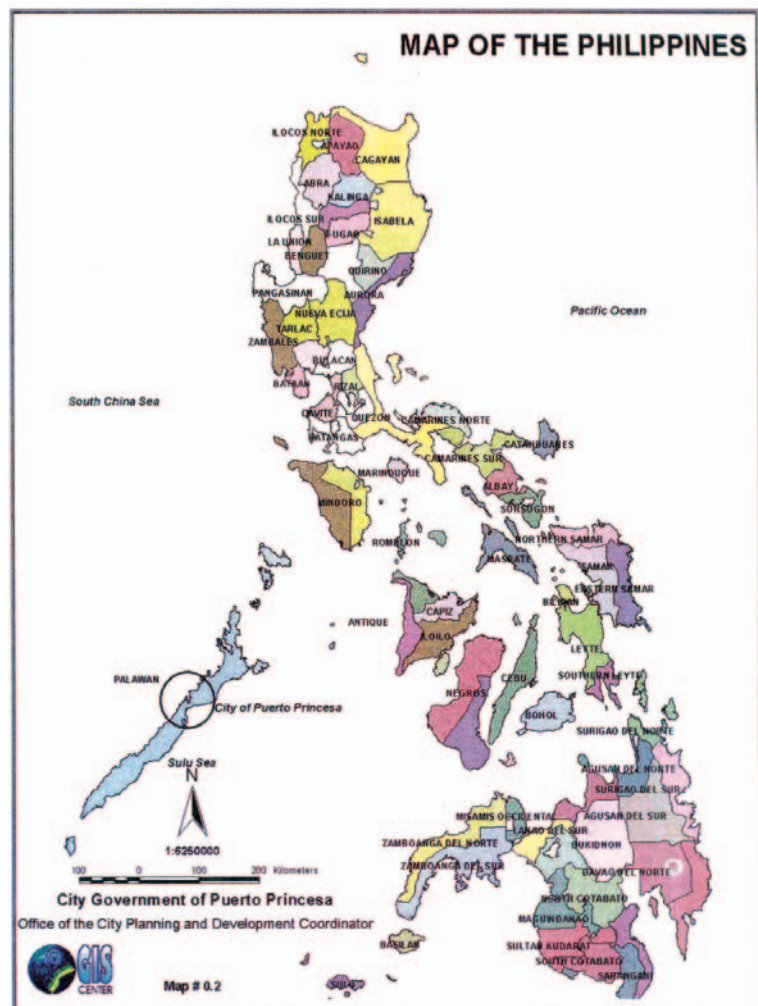
# III. PUERTO PRINCESA CITY AND ITS TRICYCLE SUBSECTOR

## A. General Description

Puerto Princesa sprawls across 253,982 hectares of land making it the country's largest city. Located 306 nautical miles southwest of Manila, it stretches 106 kilometers long with its narrowest breadth in Bahile where only 8.5 kilometers of land separate the east and the west coasts (Figure 6). It has 66 *barangays* (villages), 35 of which are urban and 31 are rural settlements.

Settlements are highly dispersed. Concentration exists mainly in the peninsula on the east coast where the city proper and the urban growth point area lies relatively close to each other. The rural *barangays* are scattered over the length of the City's coastline, separated by underdeveloped tracts of land. There are five *barangays* on the west coast, which are blocked off by rugged mountains and thick forest. Three of these *barangays* so far have been reached by the road network of the City and are

Figure 6: Location of Puerto Princesa City



Source: MMUTIS, 1999.

already accessible during the dry season. However, the two other barangays remain to be connected to the City's road network.<sup>14</sup>

In terms of population, Puerto Princesa City registered a total population of 129,577 in 1995. It increased by two-and-a-half times (250%) over a 25-year period. This enormous increase may be traced to the rapid growth experienced between 1970 and 1980, when the city's population was escalating at the rate of almost 5.0% per annum. However, the rate started to perk up during the first half of the decade (1990-1995), registering an average of 6.6% annual growth (Table 3). Assuming the persistence of the current rate of growth, the 1998 mid-year population of the city stands at 155,234.<sup>15</sup>

**Table 3: Historical Population Growth, Puerto Princesa City, 1995**

Year	Population	% Increase or (Decrease)	% Average Growth Rate
1903	1,208		
1918	6,427	432	11.14
1939	10,887	69	2.54
1948	15,177	39	3.47
1960	23,125	52	3.69
1970	37,774	63	4.92
1975	45,709	21	4.87
1980	60,234	32	5.67
1990	92,147	53	4.34
1995	129,577	41	6.59

Source: City Planning and Development Office (CPDO), Puerto Princesa City.

The household size, conversely, was on a declining trend. From 6 members in 1970, the size shrunk to an average of 5 in 1995.

As of 1995, the City's population was predominantly urban. Its major concentration was the urban areas, which accounted for about 72.98% of the total population. The barangays of the urban area and surroundings encountered a yearly growth rate of 7.50%

<sup>14</sup> Comprehensive Land Use Plan, 2001-2010, City of Puerto Princesa, 2000.

<sup>15</sup> City Planning and Development Office (CPDO). *Puerto Princesa City Socioeconomic Profile Report, 2003*.

while the rural barangays had an average yearly growth rate of 4.50%.<sup>16</sup>

The economy of the City of Puerto Princesa is still basically dependent on agriculture, where farming provides livelihood to 8,932 households representing about 30% of the City's total population. Fishing, on the other hand, supplies about 60% of the marine requirements in Metro Manila.

The City of Puerto Princesa is also noted as a tourist destination. Being known as the "last frontier" of the Philippines, the City is endowed with vast natural resources and unique ecosystems. It rapidly became a vital tourist destination after the St. Paul Subterranean River National Park was handed over by the Department of Environment and Natural Resources (DENR) to the City government.

From 1995 to 2000, the growth rate of tourist arrivals in the City averaged at 22% every year. Although it declined in 1998 by 10%, the tourism industry remains stable. With the inflow of tourists in the City, many residents have invested in tourism-related establishments and services. These establishments, however, are mainly concentrated in the City proper.

## B. Profile of the Tricycle Subsector

The population increase in Puerto Princesa city led to an increasing demand for mobility during the past years. Table 4 shows the number of registered vehicles in Palawan from the period 1990-2003. During the periods 1992-1994 and 1996-1997, the demand for mobility significantly increased by 16% and 30% respectively. The downward trend in the said registration, however, can be noted in year 2003, of which reduction in the number of registered motorcycles and tricycles is observed. Except for year 2003, the volume of tricycle increased exponentially over the said

<sup>16</sup> City Planning and Development Office (CPDO), *Puerto Princesa City Socioeconomic Profile Report, 2003*.

**Table 4: Palawan Vehicle Registration by Type of Vehicle, 1990–2003**

Year	Cars	Utility Vehicles	Trucks	Buses	Motorcycle/Tricycles	Total	% Increase
1990	108	1,227	349	41	4,062	5,787	
1991	120	1,417	353	54	4,063	6,007	3.80
1992	140	1,669	419	50	5,199	7,477	24.47
1993	163	1,928	667	57	5,877	8,692	16.25
1994	199	2,125	508	67	7,536	10,435	20.05
1995	187	2,106	671	141	8,324	11,429	9.53
1996	258	2,806	633	138	11,103	14,938	30.70
1997	378	3,192	702	156	13,774	18,202	21.85
1998	461	3,277	782	142	14,079	18,741	2.96
1999	548	3,921	820	136	14,537	19,962	6.52
2000	596	4,344	900	144	16,092	22,076	10.59
2001	603	4,604	1,034	146	16,449	22,836	3.44
2002	566	4,784	980	156	17,138	23,624	3.45
2003	535	4,805	982	124	14,742	21,188	(10.31)

Source: Land Transportation Office (LTO).

period (Figure 7). It is estimated that about 70% of the registered tricycles in Palawan are in Puerto Princesa City.<sup>17</sup>

Public transportation within the City proper is via motorized tricycles and jeepneys. About 2,824 tricycles serve commuters within the *poblacion* (commercial center) and adjacent barangays while about 230 passenger jeepneys (multicabs) ply on their assigned routes between the City proper and adjoining barangays and municipalities.<sup>18</sup>

The study conducted a survey in Puerto Princesa City in April 2004, which established the high dependence of population on tricycles as a means of public transportation. About 58% of the total respondents are regular tricycle commuters, taking at least two rides daily. Among nonregular commuters, 25% of the respondents signify that they take at least 5 rides on a weekly basis. Among the reasons cited for tricycle dependence are (i) high accessibility; (ii) availability; (iii) affordability, and (iv) convenience.

About 81% of the respondents belong to the productive age group between 11-40 years old, implying that students and employees

constitute the majority of the commuting public in the City. Usual destinations are residence, work, school, church, market or malls, and parks.

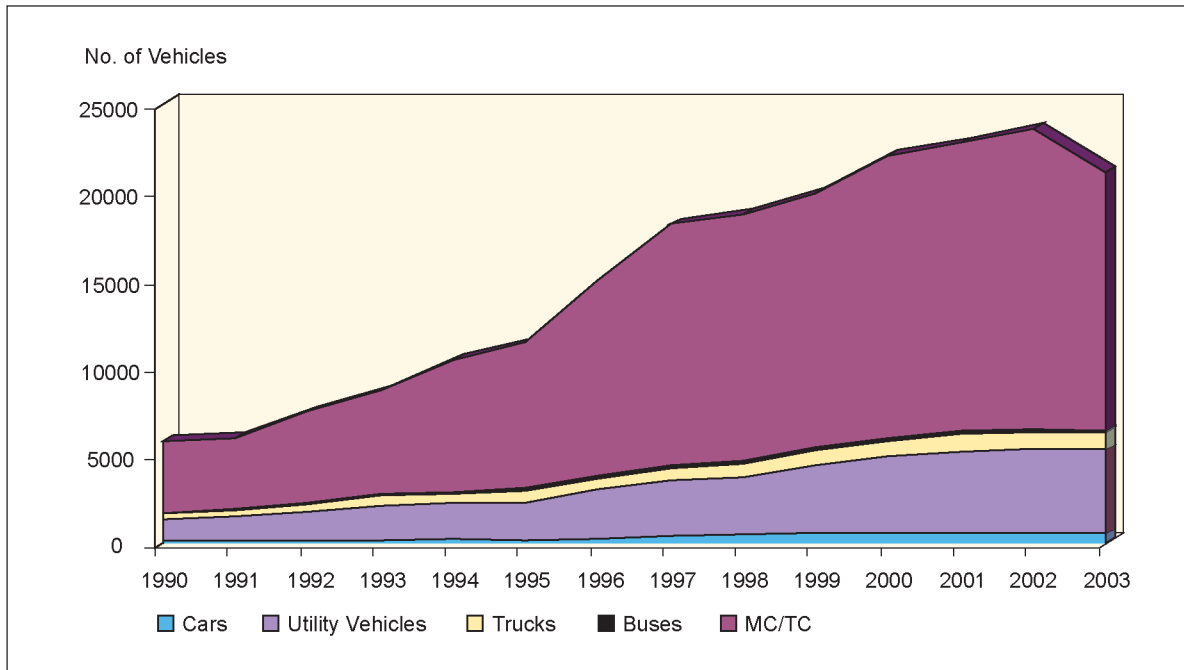
Moreover, tourists prefer taking the tricycle in going around the City because of the convenience and comfort it gives. For transporting passengers and cargoes to distant destinations, jeepneys and buses provide the required services.

The closest substitute to a tricycle is a multicab. However, the latter takes a particular route, in which the commuter is prompted to walk some distance or transfer to another multicab with another route. The tricycle, on the other hand, provides the convenience of traveling regardless of required distance or destination. Furthermore, with a tricycle, the commuter's waiting and traveling costs are minimized as it accommodates only 3-4 passengers per unit compared with a multicab with 14 passengers. Some areas in the City are also not served by multicab, especially those that are classified as residential areas. That is why the tricycle is more visible and thus, readily available for the commuters.

The commuters' perspective on the issue of tricycle service affordability is relative. While the minimum tricycle fares is P6 per passenger, which is 10% higher than the

<sup>17</sup> City Planning Development Office (CPDO), Puerto Princesa City.  
<sup>18</sup> Strategic Environmental Plan for Puerto Princesa, 2003.

**Figure 7: Palawan Vehicle Registration by Type of Vehicle, 1990–2003**



Source: Land Transportation Office (LTO).

multicab's fare, most of the commuters feel that the said tricycle fare is still modest compared with the convenience they get out of it.

With respect to tricycle drivers and operators, the survey revealed that about 53% of the driver respondents are high school graduates and are therefore eligible to be employed in other fields of labor. About 88% of the driver respondents signified that they solely depend on tricycles for livelihood as it provides readily available income, of which 74% operate 11-15 hours per day. However, majority admitted that such income is often insufficient to sustain their personal and family needs on a daily basis. A tricycle driver typically earns between P200-P300 daily but usually spends P100 for boundary, P120 for fuel and P30 for lubricant, leaving a net income of around P100-P150.

In terms of vehicular age, the survey results show that about 60% of tricycle population in the city age more than 5 years, of which about 40% are more than 10 years of age. The prolonged operation of these tricycles

result to over-lubrication of the engine, with a lubricant-to-fuel ratio averaging to as high as 1:15. Most of the tricycle units are also poorly maintained, with 75% drivers indicating that they clean the carburetor every 3 months at the minimum, 70% clean air filter every 3 months and beyond, and 72% clean the exhaust manifold at least every 5 months.

Compared to Quezon City, tricycle operations in Puerto Princesa City are compounded by the loading capacity and road condition. Tricycle tires (inner and outer parts) in the latter are replaced or even recapped after only 4 months compared to the former, which has an average duration of 6 months. In the case of tricycles in Puerto Princesa City, the cargo at the rear end and the extra load at the front shelf transmit significant pressure on the tires. Since the road is relatively of poor quality regardless of its paved condition, the tires absorb the shocks thus they get damaged easily.

City-wide inspection was also conducted to identify the sources of fuel for the tricycles. There are only three gasoline stations in the

area, which are all located in the city proper. The limited number of vehicles, as well as their dispersed operations, serves as a disincentive to gasoline station operators to branch out in other areas. As such, most of the fuel and lubricant are sourced from the informal stores, which sell in smaller quantity (*takal*). The tricycle drivers prefer to buy from these stores since their income could only be realized once a trip is made.

### **C. Puerto Princesa City Road Network**

At present, the total road network in the city is 531.5 kilometers, of which 155.9 km is categorized as national road and 375.6 km as city roads. With a total land area of 253,983 hectares, the average road density of the city is 0.21 km per square kilometer. The national standard is 1.0 km per square kilometer.

Of the total city roads, 309 km (82%) are gravel, 39 km (10%) are concrete, 16 km (4%) are asphalt, and 12 km (4%) are earth roads. Within the city proper, secondary national roads are concrete. Outside the *poblacion*, primary national roads of Puerto Princesa South Road, (PPSR) and Salvacion-Bahile Road are asphalt, while the Puerto Princesa North Road (PPNR) is concrete.

PPNR and PPSR are the two major highways that converge in Puerto Princesa City thus they link the entire province. The PPNR connects the city to the northern towns of Roxas, San Vicente, Taytay, Dumaran and El Nido while the PPSR links the city to the southern towns of Aborlan, Narra, Quezon, Rizal, Espanola, Brooke's Point and Bataraza. The PPNR leads to more tourist destinations in the province such as the famous Underground River, Coco-Locho Island Resort, Club Noah, and Miniloc, among others.

The City government's decongestion program calls for the establishment of a new urban subcenter in Barangay San Jose (approximately 4 km away from the old market). Major activities include the

construction of new roads to provide smooth access to and around the area. The existing access road (1.08 km x 12.0 m) connects the north and the south national highways while the peripheral road (0.76 km x 10.0 m) is still to be constructed and paved. With this, it is also targeted to complete concreting and widening of south and northbound national arterial roads in the nearest possible time.

Access roads to seaport, airport and farm-to-market roads are being targeted for improvement, widening and rehabilitation until end-2005. Since there is a plan to upgrade and expand the city's seaport, existing access roads will be widened. To support the expansion of the airport, however, alternate roads to the terminal will also be provided. Existing farm-to-market roads with a total of about 142 km, on the other hand, will also be supplemented and improved in the next 5 to 10 years. The City Agriculturist Office proposes to have about 337 km farm-to-market roads opened up within the 10-year period.

The City government gives priority as well to the tourist access roads especially those leading to Honda Bay and Underground River.

With all these innovations and improvements of roads, the implementation of a mixed road use for motorized transport (especially for mass transport) and nonmotorized transport (NMT) like the addition of bike lanes is also a part of the plan to enhance traffic flow.

### **D. Prospects in the Tricycle Subsector**

Understanding the dynamic nature of society, technology and economy that influence the formation of scenarios will assist the City government of Puerto Princesa in addressing and coping with possible conflicts in the future. Describing and analyzing the situation will illuminate the key pressures and will provide a clear picture of possible changes to occur.

In analyzing the most likely scenario in the tricycle subsector, a political, economic, social and technological (PEST) analysis is conducted to determine the factors that are most likely to affect the future demand for and supply of tricycle services. This will allow a greater understanding of the situations that could lead to the adoption of an informed and more prudent decision.

## **Political Factor**

### **1. Setting Environmental Goals.**

The two-fold aim of becoming one of the best tourist destinations and being the cleanest and greenest city in the country gives high priority in boosting economic activities that focus on the operation of sites and areas developed for eco-tourism, scientific, educational and specialized convention groups, as well as on the provision of services and support of activities that are related to these. As for the transport sector, the City government is also aiming to reduce the number of tricycles to 3,000 units through the adoption of a mass-transport system with lesser carbon emission.

## **Economic Factors**

### **1. Developing Urban Centers and Corridors.**

The development of urban centers and corridors are expected to trigger economic activities that would increase employment opportunities and income within the affected areas within the following years. As income increases, it is also expected that demand for mobility will also increase. At present, however, only a few multicabs are irregularly passing through these target areas despite the road's capacity to accommodate bigger vehicles. Moreover, some houses within these barangays are so remote that only tricycles are willing to serve. The bad road condition further aggravates the nonavailability of other modes of land transportation aside from tricycles. Should there be no new investments for road rehabilitation and construction, it is therefore expected that households and

businesses will continue to be dependent on the tricycles.

### **2. Growing Tourism Industry.**

The City of Puerto Princesa is a popular tourism destination as it is endowed with natural beauty and rich biodiversity. The peace and order situation, both due to effective police and civil vigilance, makes it even more attractive for local and foreign tourists alike.

With its 22% average growth per year, additional investments for tourism development and tourism-related services are expected. At present, there are about 71 establishments and 806 employees directly connected to the tourism industry.<sup>19</sup> Moreover, the active participation of the City in Brunei-Darusalam, Indonesia, Malaysia and the Philippines-East Asian Growth Area (BIMP-EAGA) initiative may continue to broaden its tourism economy. The ADB-funded intermodal transport development initiatives will further make Puerto Princesa City accessible for tourists. The City government is targeting to host about 200,000 foreign and local visitors annually from 2005 onwards.

Since tricycles are highly accessible and provide round-the-clock services irrespective of destinations, they are more tourist-friendly. Getting around the City and its nearby barangays would be difficult for tourists due to nonfamiliarity with the area itself and with multicab or bus routes. Tricycle fares are also much cheaper compared to other vehicles for hire.

### **3. Making Tricycle a Tourism Icon.**

The tricycles of Puerto Princesa City vary widely from most of the tricycles here in the Philippines. Like the *tuk-tuks* of Thailand, they are an added attraction to the City's already booming tourism industry and are already an easily identified icon among

<sup>19</sup> Comprehensive Land Use Plan for Puerto Princesa, 2001-2010. City of Puerto Princesa, 2000.

tourists. Should the City government decide to keep the current design in promoting its tourism industry, sidecar and tricycle specifications are therefore expected to remain the same for at least 10 years.

#### **4. Enhancing Agricultural Production.**

The City government aims to further promote agricultural industry in the area, as it captures 60% of the market for marine products in Metro Manila. Initiatives like provision for affordable fishing boats and support for post-harvest activities have already been extended by the government especially to fishing villages; this will further increase the supply of marine products from these areas. Considering that these villages are presently catered by tricycles in transporting their marine harvests from the wharf to the public market and to other customers within the City, it is uncertain if multicabs will be allowed to serve these areas in the near future. Therefore, demand for tricycle services is expected to increase.

#### **5. Increasing Unemployment Rate.**

Socioeconomic data<sup>20</sup> for Puerto Princesa City indicates that in 1997, the percentages of employed and self-employed (which include tricycle operators and drivers) are almost of equal values (23.6% and 23.9%, respectively). Unemployed but employable population, however, accounts for 14%. The data also shows that of those in gainful activities, only 27% are in the highly-skilled occupation (that is, government employees, private employees, teachers, traders/ businessmen).

In the survey of April 2004, around 10% of the tricycle drivers have finished elementary and 53% have finished high school studies. About 75% of these sample drivers

belong to the productive age of 25-50 years. Although some of the driver respondents have other jobs as mechanics, carpenters, electricians, and computer technicians, tricycle driving remains their main source of income. This indicates that the lack of employment opportunities for these drivers induced them to resort to tricycle driving.

### **Social Factor**

#### **1. Increasing Population.**

Demand for transportation is directly proportional to population growth—as population increases, the demand for mobility also increases. And in the case of Puerto Princesa City, where tricycles dominate the roads, it is expected that as population growth exhibits an upward trend, the demand for tricycle services increase similarly. The population survey conducted by the National Statistical Coordination Board (NSCB) in 1995 indicated that the age groups of 0-14 and 15-64 comprise 40% and 58% of the total population, respectively. This implies that the productive age group will continue to compose the majority of the commuting population.

In terms of location, the urban barangays near the City proper are expected to experience an annual population growth rate of 7.5%. Residential developments are also expected to encourage in-migration and thus, intensify population growth in the City proper.

The day population of the City increases by an average of 20,000 people coming from the different parts of the hinterlands including by-passers.<sup>21</sup> Being the center of government, education, health and trade in the province, Puerto Princesa City attracts a number of transients to the City increasing thereby the demand for transportation, especially for tricycles.

<sup>20</sup> Population Distribution by Gainful and Nongainful Occupation, data from the City Planning and Development Office.

<sup>21</sup> Puerto Princesa City Traffic Study, 1994.

## Technological Factors

### 1. Urban Road Network.

Inadequate infrastructure is one of the major problems faced by the City. The urban road network can hardly accommodate the present traffic volume, as busy streets (within the central business district or CBD) are narrow and some are poorly paved. Existing terminals, parking areas and drainage facilities are inadequate and substandard. Widening of streets surrounding the old market seems no longer feasible.<sup>22</sup>

Considering the anticipated population growth rate of 6.6% per annum, traffic volume is expected to increase. It should be noted, however, that the streets within the CBD, are narrow making it difficult for bigger vehicles (like, multicabs) to traverse along these areas; hence, there is a bias for the motorcycles and tricycles. And with technological constraints for road expansion and construction in some of its streets, the City is expected to be highly dependent on tricycles as a mode of public transportation.

### 2. Motorcycle Availability and Financing Scheme.

The motorcycle industry is becoming more competitive now with the entry of new players due to trade liberalization. Majority of the production of motorcycles with engines lower than 500cc<sup>23</sup> is basically assembly. Complete-knocked-down (CKD) motorcycle parts are usually imported from Japan, and then assembled locally. Manufacturing plants in the country are either extension plants of the mother firm or authorized local franchisees carrying the same products but not necessarily the name of the mother firm. The locally-produced parts constitute about 50% to 60% since this is a requirement set by the Department of Trade and Industry (DTI).

New players are also gaining a portion of the market especially with their lower prices. A Japanese 4-stroke model normally cost around P70,000 (\$1,285) to P75,000 (\$1,375) on cash basis depending on the model grade. For installment schemes, initial down payment is usually about P12,000 (\$220) with a monthly payment of P4,000 (\$74) for three years. A Chinese model of the same type and grade would cost about P50,000 (\$920) or less for cash buyers. Initial installment packages vary from P2,900 (\$53) to P6,500 (\$120) depending on the brand and market share.

In general, the Chinese models are cheaper by about 40%. The problem with the new players is the lack of after-sales support like spare parts availability. However, in due time all brands of motorcycles are expected to reach a saturation point, in which the new players eventually will catch up on quality, price and market share.

The low prices and the availability of motorcycles have been great factors for the surge of the tricycle subsector. As a result financing and operating tricycles have become relatively inexpensive. Thus, compared to other businesses it yields lower risk on investment due to the minimal capital required and quick revenue generated.

The influx of scooters also paved the way to more business opportunities in the sector. This is because scooters eliminated the pedal controls and integrated it all in the front console instrumentation, making it easier to drive regardless of age and gender. One of the benefits from scooters is that most of the importation is 4-stroke, thus, they are more energy efficient. Another benefit is that many parts are in complete-knocked-down (CKD) assembly kits, which encourages drivers to assemble their own unit in any fashion. This also opens new doors to local technicians to do the same practice with the motorcycles.

### 3. Sidecar Manufacturing.

Like in Quezon City, tricycles have never been a subject of roadworthiness evaluation or

<sup>22</sup> Comprehensive Land Use Plan for Puerto Princesa City, 2001-2010. City of Puerto Princesa, 2000.

<sup>23</sup> Cubic centimeters (cc) denote the size of internal combustion engines in automobiles and motorcycles.

assessment by the concerned agencies, nor standards have been set for sidecars. Sidecars in Puerto Princesa City are relatively unstable as they are designed to carry more people than the capacity of the engine. Most tricycles carry people inside the cab or behind the driver.

Sidecar assembly can be done practically anywhere, as this is considered a backyard industry. Designs are not regulated while dimensions do not have specific standards. Sidecars are designed to be ergonomically detrimental, as they are too narrow and becomes crowded when another person is accommodated in front. Shown in Figure 8 are typical designs of sidecars in Puerto Princesa City.

**Figure 8:**  
**Typical Tricycle Sidecar, Puerto Princesa City**

