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ENVS662: Green Design and the City

Transportation Project

The Rickshaws of Dhaka, Bangladesh

With a population well over 12 million people crowded into 360 square kilometers, Dhaka is easily one of the densest cities in the world.¹ It is projected by the United Nations to be the world's second most populated city by 2015, with a growth rate of 3.1% per year.² More often than not, new residents of Dhaka are in search for employment. Of these, the low-skilled uneducated men are likely to find a job as a wallah, or a rickshaw driver.³ But in recent years the city government and the World Bank have been advocating restricted roads and citywide bans of rickshaws in order to promote motorized transport for the growing population. Is this the right path to take? Or do rickshaws play a larger part in Dhaka's goals of sustainability?

The transportation profile of Dhaka is seemingly simple. Being near the water, Dhaka has a good-sized fleet, but for transportation within the city, rickshaws and various types of fuel-powered vehicles (including cars, taxis, and buses) take the streets. Rickshaws are not a new means of small-scale local transport. China introduced the more primitive pull-rickshaw to Dhaka in the late 1930's (see Picture 1), which was eclipsed by the bicycle-passenger car hybrid soon thereafter (see Picture 2).⁴ While the rest of the world would eventually decrease their use, Dhaka is one of the only cities that keeps rickshaws as a transportation mainstay. This fact was highly evident in the 1980's, when a study concluded that rickshaws constitute about 60% of the vehicular traffic volume in Dhaka, as opposed to 35% fuel-powered vehicles.⁵ In 2002, "[about] 500,000 rickshaws ... circulate every day in Dhaka city alone. ... Today, Dhaka is known as "the city of rickshaws."^{6,7}

¹ "Statistical Pocket Book of Bangladesh 2008." Bangladesh Bureau of Statistics. PDF Document. Jan. 2009. <http://www.bbs.gov.bd/dataindex/pby/pk_book_08.pdf>

² "Affordable housing dangerously short as Dhaka population explodes." Zimbio. July 2008. <<http://www.zimbio.com/pictures/rsXeJv9-AiD/Affordable+Housing+Dangerously+Short+Dhaka>>

³ McGee, Terry. "Urbanization takes on new dimensions in Asia's population giants." *Population Today*. Population Reference Bureau. October 2001.

⁴ Although the former traditional pull-rickshaw is still used.

⁵ Kalabamu, Faustin. "Rickshaws and the Traffic Problems of Dhaka." *Habitat International*. Vol. 11, No. 2, pp. 123-131, 1987.

⁶ Lasnier, France. *Rickshaw Art in Bangladesh*. 2002. The University Press Limited: Dhaka.

⁷ In reality, this number is only an estimate due to the presence of unregistered vehicles and the absence of updated data.



Picture 1. Pull-rickshaw
Photo Credit: National Geographic



Picture 2. Bicycle-passenger car hybrid
Photo Credit: Unknown

Unfortunately, it is difficult to verify the current ratio of man-powered to fuel-powered vehicles in Dhaka. A recent news article last month cited a huge growth in car sales in 2008 – up 46% from 2007, and more than twice the number of cars sold in 2006. Many of these cars are found in frequent traffic congestions – either within the crowd or parked illegally on the roadside.⁸ Government officials have largely attributed rickshaws to be a main factor of these traffic jams because of their omnipresence, slow speeds, difficult maneuverability, overloading (picking up an extreme amount of cargo), and unqualified drivers (see Picture 3).⁹ In response, legislation has moved forward to ban the vehicles and restrict them from major roads in replacement with motorized vehicles.¹⁰ In addition, rickshaws are blamed for the majority of the road accidents in Dhaka.



Picture 3. Typical traffic jam in Dhaka, Bangladesh
Photo Credit: Wordpress – freshclick

⁸ “Traffic system of Dhaka City totally collapses.” Bangladesh News. 13 Aug. 2009.
<<http://www.apakistannews.com/traffic-system-of-dhaka-city-totally-collaps-133715>>

⁹ Kalabamu, Faustin. “Rickshaws and the Traffic Problems of Dhaka.” *Habitat International*. Vol. 11, No. 2, pp. 123-131, 1987.

¹⁰ Howley, Kerry. “Rickshaw Rights.” *Reason*. May 2005, Vol. 37 Issue 1, pg 9-10, 2p.

This push for transportation restructuring and rickshaw reconsideration is also known as the Dhaka Urban Transport Project (DUTP). Funded by World Bank, DUTP's activities are meant to support "the development of a new and modern infrastructure."¹¹ Disregarding the modernization and road infrastructure arguments, advocates of the DUTP believe that hand-pulled rickshaws should be eliminated solely based on social standards and humanitarian grounds, saying, "It is offensive to see one man sweating and straining to pull another man."¹² Health and safety is also an issue since pulling the traditional vehicles leads to hip-, lower back-, and shoulder-problems.¹³ Furthermore, a study entitled, "Pulling rickshaws in the city of Dhaka: a way out of poverty?" concluded that, no, "rickshaw pulling provides no permanent route to escaping poverty." The extreme physical demand of the practice added onto malnutrition gives a high probability of suffering from major health shocks that would be hard to overcome.¹⁴

However, these arguments pale in comparison to the sustainable contributions that rickshaws offer. DUTP is potentially proposing goals that support the hegemony. The upper class can afford private cars and taxis, leaving the middle and lowest classes without the option of a public mode of transportation. Rickshaws, on the other hand, present almost universal accessibility because of its competitive price scheme.¹⁵

Moreover, a lot of the population is invested in this line of work. Not only does this add to the accessibility of the service by location, but it also means that many people are economically dependant on the existence of rickshaws. A study from the Shankland Cox Partnership (1981) estimates that, on average, there are 2.5 pullers per rickshaw. With approximately 500,000 rickshaws in Dhaka, the service would directly employ about 1.25 million people. That number makes up about 10% of Dhaka's labor force. In addition to direct jobs, rickshaws also generate many peripheral ones for renting, parking, building, repairing, and decorating the vehicles.¹⁶ And, in spite of the 2005 study, the pay that a wallah receives is better than no pay at all.¹⁷

¹¹ Ibid.

¹² Trillin, Calvin. "Last Days of the Rickshaw." *National Geographic* magazine. April 2008

¹³ Gadepalli, Shreya. "Rickshaws in the new millennium." *Appropriate Technology*. Dec 2006; 33, 4; ABI/INFORM Global pg. 68.

¹⁴ Begum, Sharifa and Binayak Sen. "Pulling rickshaws in the city of Dhaka: a way out of poverty?" *Environment and Urbanization*. Vol. 17, No 2. Oct 2005.

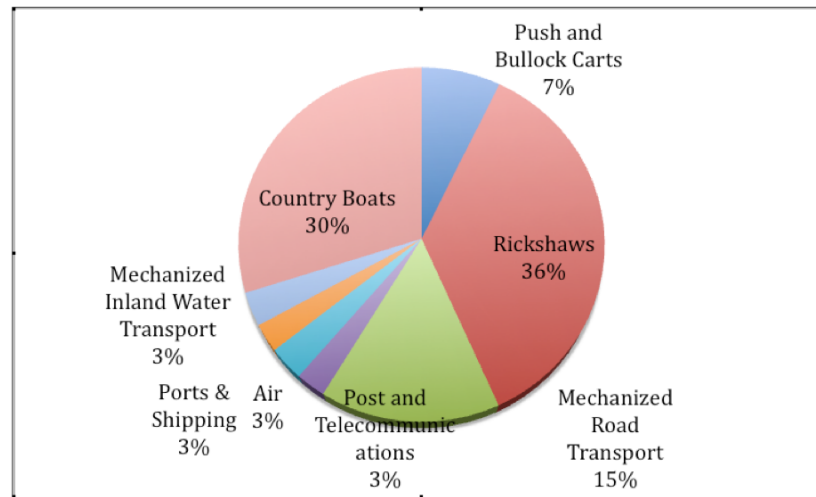
¹⁵ With the only exception being those who are poorer than the wallahs themselves.

¹⁶ Lasnier, France. *Rickshaw Art in Bangladesh*. 2002. The University Press Limited: Dhaka.

¹⁷ Kalabamu, Faustin. "Rickshaws and the Traffic Problems of Dhaka." *Habitat International*. Vol. 11, No. 2, pp. 123-131, 1987.

Rickshaws provide many economic advantages, as well. A 1985 document published from the Bangladesh Bureau of Statistics noted that rickshaws contributed 34% of the total value-added by the transport sector in Bangladesh. This was more than double the contribution of all mechanized road transport and comparable to twice the output of the London's underground railway in distance traveled. (see Figure 1.)¹⁸

Figure 1. Value-Added in the Transport Sector, 1984/1985



Furthermore, Dhaka's location and road conditions make rickshaw use irreplaceable. Not only are rickshaws accessible on a social standpoint, but also a geographical one. Since Dhaka was built on a flood plain, occasional storms make the streets inaccessible to cars. Rickshaws are still in service and trek through the conditions, making them more reliable than motorized vehicles in that aspect. In a *National Geographic* article entitled, 'Last Days of the Rickshaw' a wallah noted his own importance, saying, "When it rains, even the governor [who tried to ban them] takes rickshaws" (See Picture 4).¹⁹



Picture 4. Wallah driving rickshaw in spite of flood

¹⁸ Gallagher, Rob. *The Rickshaws of Bangladesh*. University Press Limited: Dhaka, 1992.

¹⁹ Trillin, Calvin. "Last Days of the Rickshaw." *National Geographic* magazine. April 2008

In addition, many neighborhoods with narrow streets in Old Dhaka are only accessible on foot or by rickshaw. They can also go off roads into remote areas of Dhaka where larger public transportation systems are not available. Dhaka's road network was not made for the proliferation of cars. In order to retain a car-centered transportation system, Dhaka would have to construct new and/or widen existing roads.²⁰

In terms of environmental sustainability, the advantages are obvious. Because of the rise of automobile use, the level of air pollutant in Dhaka has steadily increased in recent years, with an annual average much higher than the World Health Organization (WHO) guidelines, making air pollution the leading cause of mortality and morbidity related to environmental issues.²¹ Rickshaws are a non-motorized, clean air alternative to fuel-powered vehicles.

And, addressing an earlier point, the accusation that rickshaws are responsible for the majority of road accidents is false. A 1980 study found that "[motorized] transport is responsible for 96.6% of total accidents while man-powered modes account for a mere 3.4%. Considering the fact that in Dhaka rickshaws are twice as many as cars the former have a very high safety performance."²²

Instead of being considered as dated traditional pieces from history, rickshaws need to be treated as symbols of the future for environmentally friendly means of transportation. Rickshaws make sense socially, economically, and environmentally. Because of the city's unmaintained road infrastructure and unfortunate geographic location, rickshaws are more competent than their motorized counterpart. Through its guaranteed employment, higher living standard opportunities, universal accessibility, and environmental friendliness, rickshaws are needed to keep Dhaka on the edge of sustainability.

²⁰ Kalabamu, Faustin. "Rickshaws and the Traffic Problems of Dhaka." *Habitat International*. Vol. 11, No. 2, pp. 123-131, 1987.

²¹ "World Bank to Help Bangladesh Cut Urban Air Pollution." World Bank. May 2009. <<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/0,,contentMDK:22178016~menuPK:64282137~pagePK:41367~piPK:279616~theSitePK:40941,00.html>>

²² Kalabamu, Faustin. "Rickshaws and the Traffic Problems of Dhaka." *Habitat International*. Vol. 11, No. 2, pp. 123-131, 1987.