

Urbanization and Environmental Concept of Dhaka City, Bangladesh

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Study Background

✓ Global Urbanization

Until the second half of the 19th century, cities never attracted more than 10% of the global population and it was increased in 37% in 1970. In 2001, more than 47% of total global population live in urban area due to the affection of global urbanization (UN-Habitat, 2003).

✓ Urban Poverty

➤ 31% of urban population live in slum in the world urban area

✓ Urban Poverty Condition of Dhaka City

➤ More than 31% of urban dwellers are live in slum in Dhaka City

➤ Mainly, they are the rural-urban migrants.

✓ Rural-Urban Migration in Dhaka City

➤ 0.3 to 0.4 million people migrate in Dhaka City per year (The World Bank, 2007)

➤ Most of them are poor and they do not have formal skill to find a job in urban formal sector

✓ Development Organizations Performance in Urban Area

➤ Dhaka City has a large number of development project with huge amount of foreign donation.

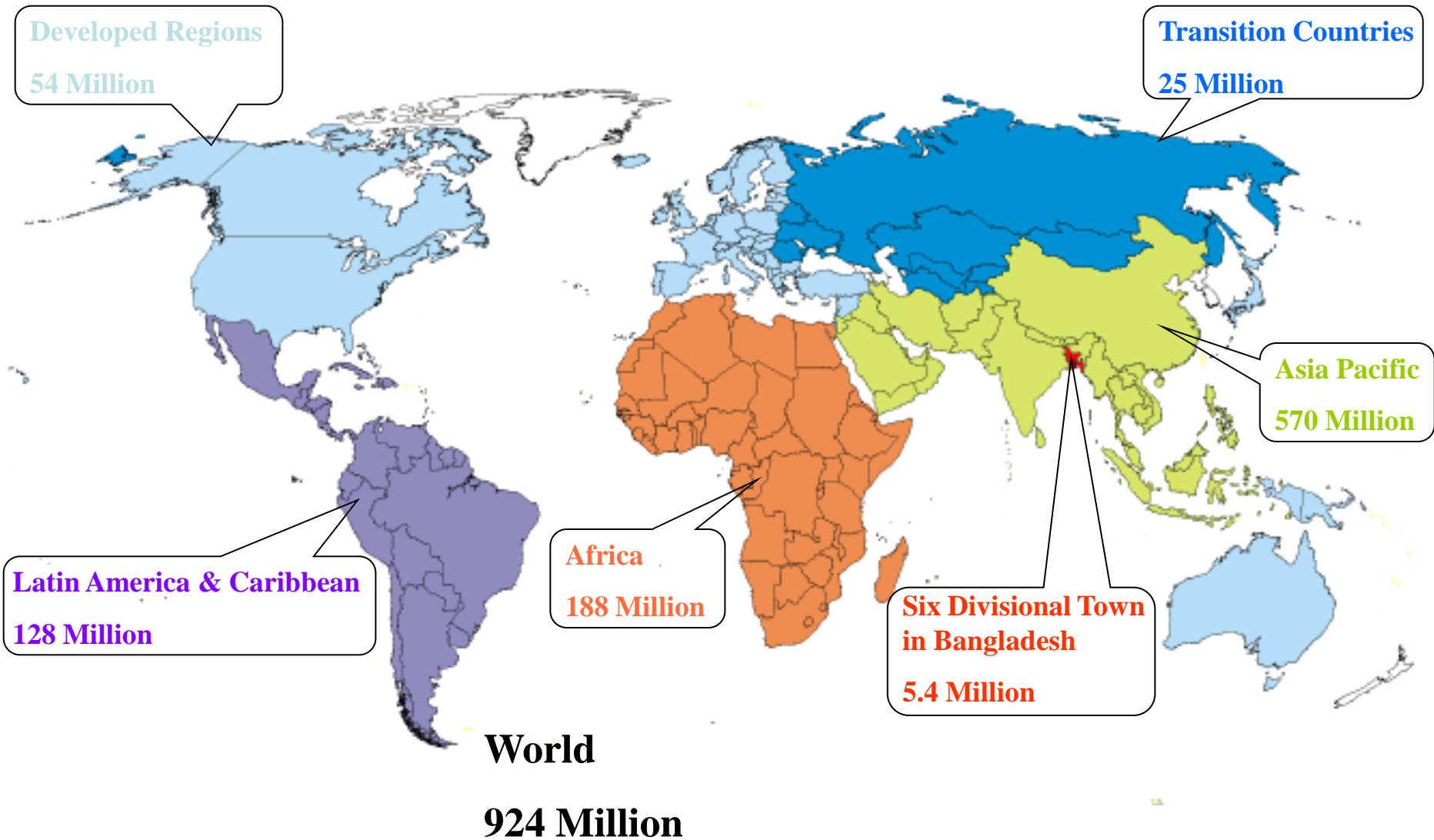
➤ However their project cannot be sustained due to the implementation process in Dhaka City.

✓ Slum Improvement Project

➤ Dhaka City has a number of slum improvement projects from different organizations

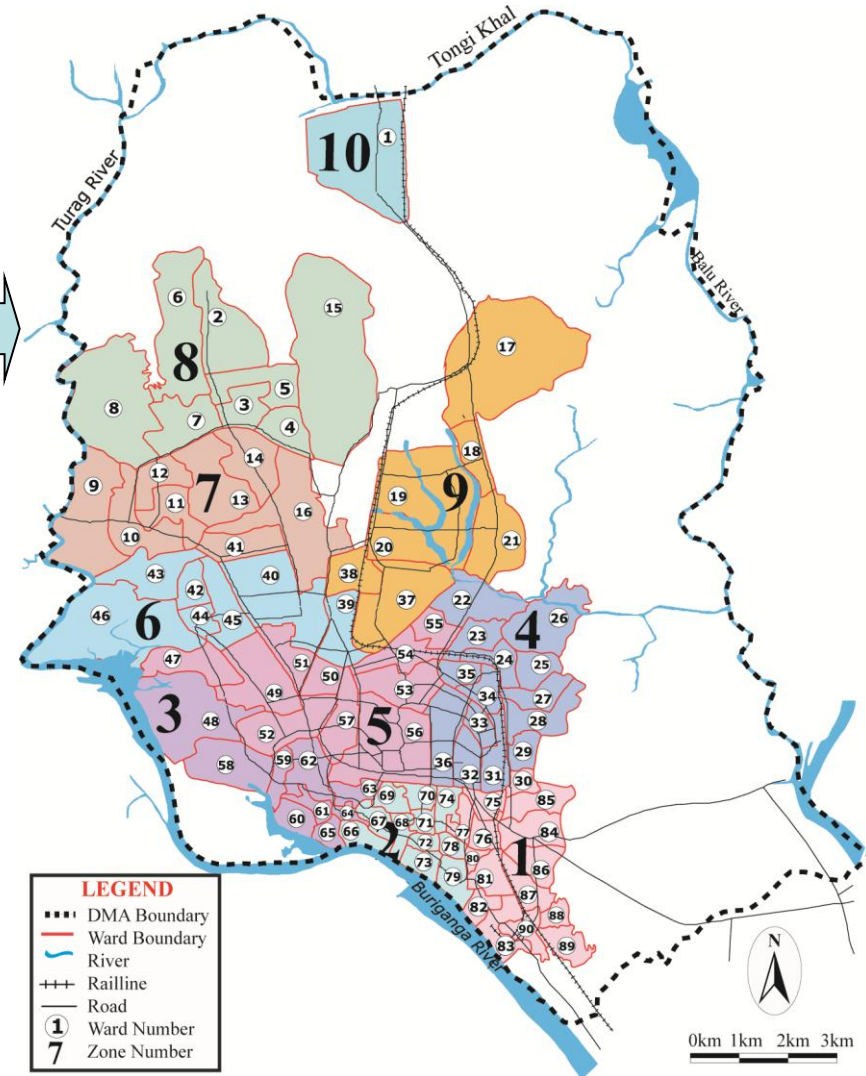
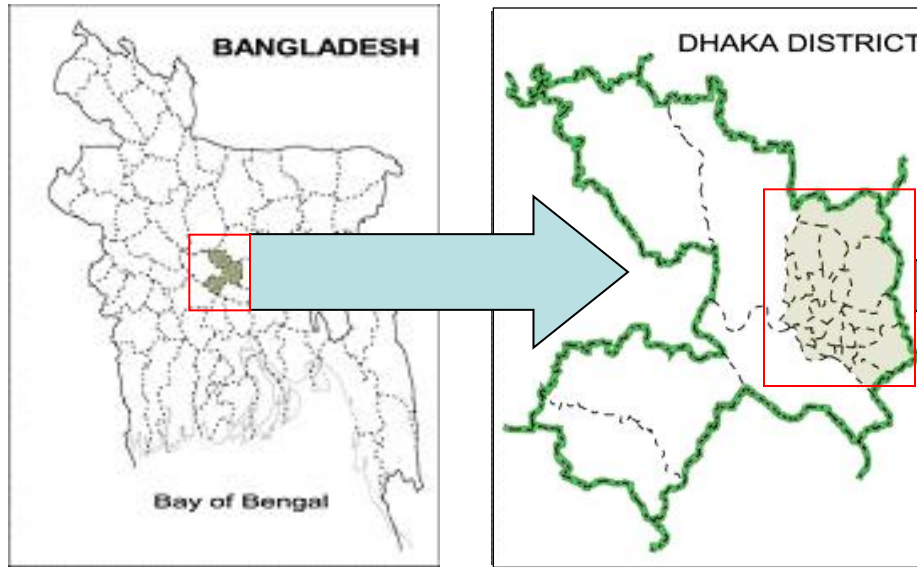
➤ However their project have no sustainability

Regional Slum Distribution in the World



Source: UN-Habitat estimates, 2001 and Islam, N. 2006

Study Field



Out line of Dhaka City

Land Area : 302 Sq. km (DMA)

145 Sq. km (DCC)

Population : 12.6 Million (DMA)

8.0 Million (DCC)

DSCC : Dhaka South City Corp.

DNCC: Dhaka North City Corp.

Background of Dhaka City

✓ Urban Population Growth

Dhaka City has more than 12.6 million population within 302 sq.km land area. In addition, only Dhaka City Corporation (DCC) area has more 8 million population within 145 sq. km land area. After the independent of Bangladesh, a large number of rural people migrate in urban area for their new life as a job, business, study, and other purpose.

✓ Rural-Urban Migration

In the rural areas of Bangladesh (mainly south and north district), almost one third of a year have no job for poor people due to the natural weather. It is very difficult season for them to eat three meals per day. Mainly the north Bengal's people affected and it is famous as the name of *MONGA* (seasonal food insecurity) in Bangladesh

✓ Urban Informal Job Opportunities

Dhaka City has a large number of informal job opportunities for rural-urban poor migrants and it is the main sources of urban poor population growth in Dhaka City as well as the central urban area of Dhaka City Corporation.

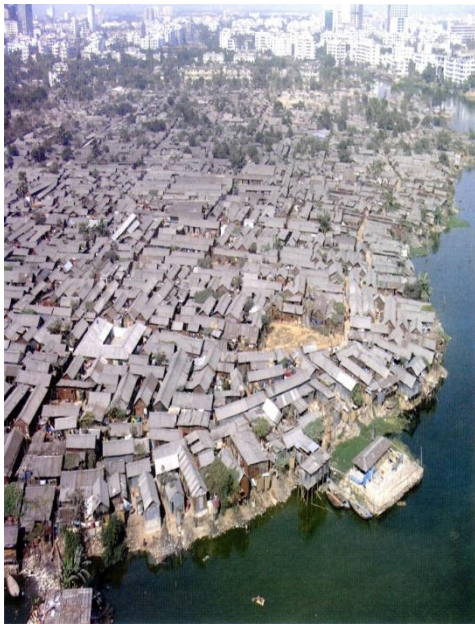
✓ Urban Informal Settlement

The urban informal low-income worker cannot find a place to live in formal housing due to their economic status and they are allocated in urban informal settlements as slums and squatters.

✓ Development Project Performance

Development organizations performed in urban area with their development project with huge amount of foreign donations. But they implement their development project as big scale with small coverage in the urban poverty area.

Urban Informal Sectors in Dhaka City



Photograph by: Dr. Peter Kim Streatfield

Informal Settlement

Slum and Squatter

City	Employed in Informal Sector (%)	Informal Settlements (%)
Karachi	69	35
Dhaka	65	32
Jakarta	65	25
Madras	60	20
Bangkok	58	18
Delhi	54	--
Manila	50	28
Calcutta	50	--
Colombo	23	28

Source: Mehta, (1985); UN, (1987b); Amin, (1991a); ILO, (1992b)

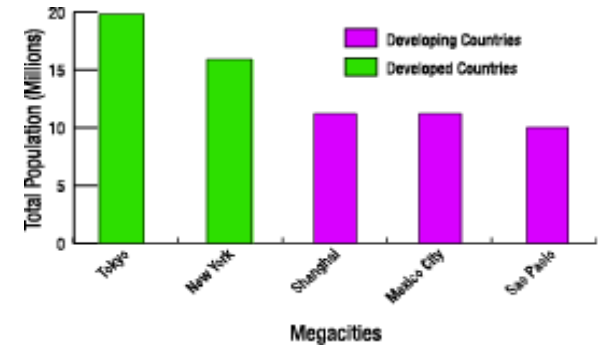
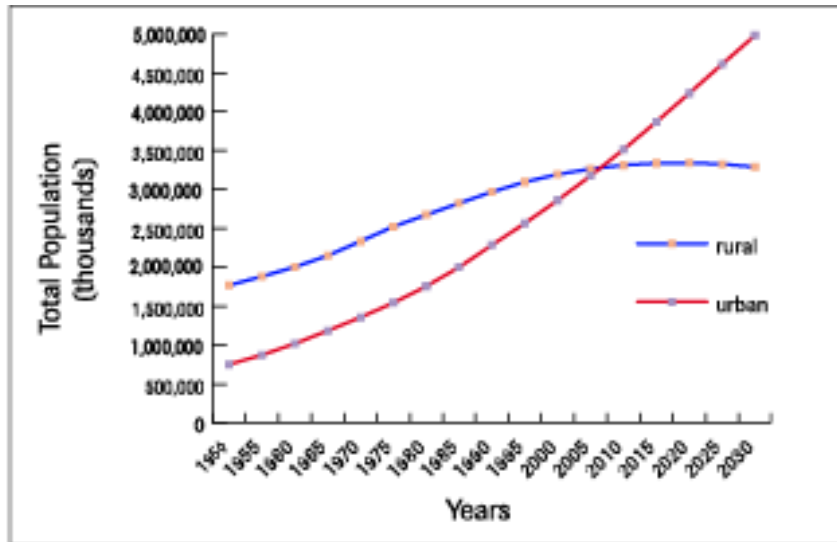


Field Survey, 2008

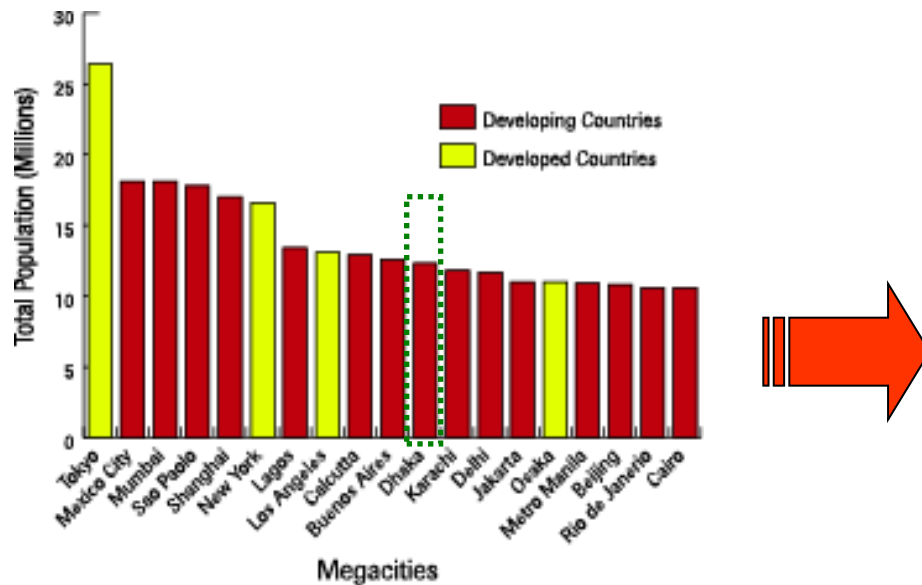
Informal Job Opportunities

- Street Vendor
- Rickshaw
- Garment Factory
- Maid servant

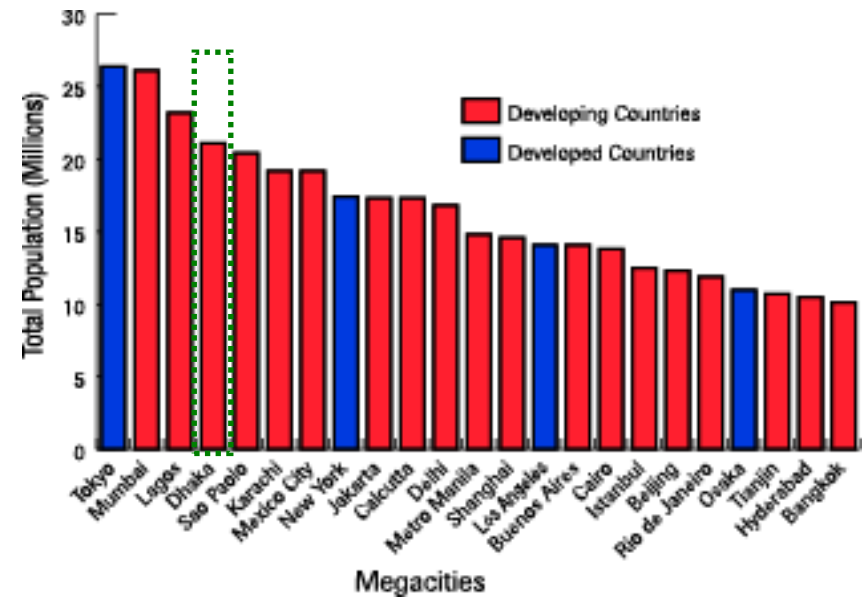
The Population Growth of Urban Area



The World Mega-cities in 1975



The World Mega-cities in 2000

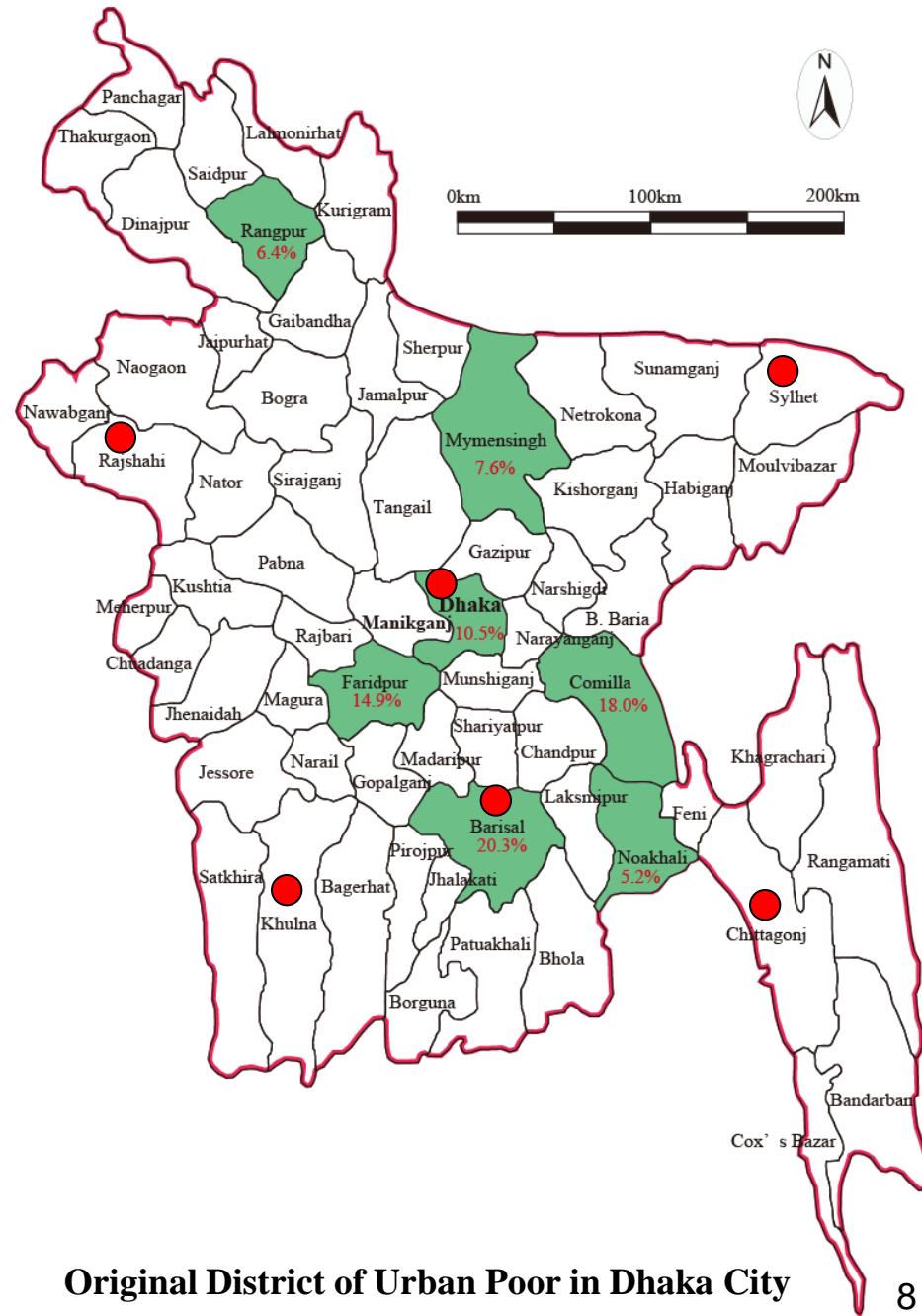


The World Mega-cities in 2015

Rural-Urban Migration Effect

Population Growth in National and Urban Level in Bangladesh

Year	National Population (Million)	Urban Population	
		(Million)	(%)
1901	28.20	2.43	8.62
1911	31.65	0.80	2.54
1922	33.25	0.87	2.61
1931	35.60	1.07	3.01
1941	41.99	1.54	3.66
1951	44.17	1.83	4.34
1961	55.22	2.64	5.19
1974	76.37	6.00	8.87
1981	89.91	13.56	15.54
1990	113.70	22.90	20.15
1995	126.80	29.40	23.20
2000	141.10	37.30	26.40
2005	155.80	46.40	29.80
2010	170.50	56.80	33.30
2015	184.60	67.90	36.80



Rural-Urban Migration Route for Poor Inhabitants



Source: The Daily Star

✓ Way of Migration

Poor people are migrated in urban area with the cheapest way of transportation system. Most of them are using inter district public transportation system as informal passenger with cheap fair.

✓ Informal Passenger

They take public transportation by the negotiating of fair as informal passenger without formal seat. And they ride on roof or other place without formal seat.

✓ High Risk

Due to their informal journey, a large number of accident happen in road, water, and rail transportation systems in Bangladesh and huge number of people dead and injured every year in Bangladesh as well as developing countries.

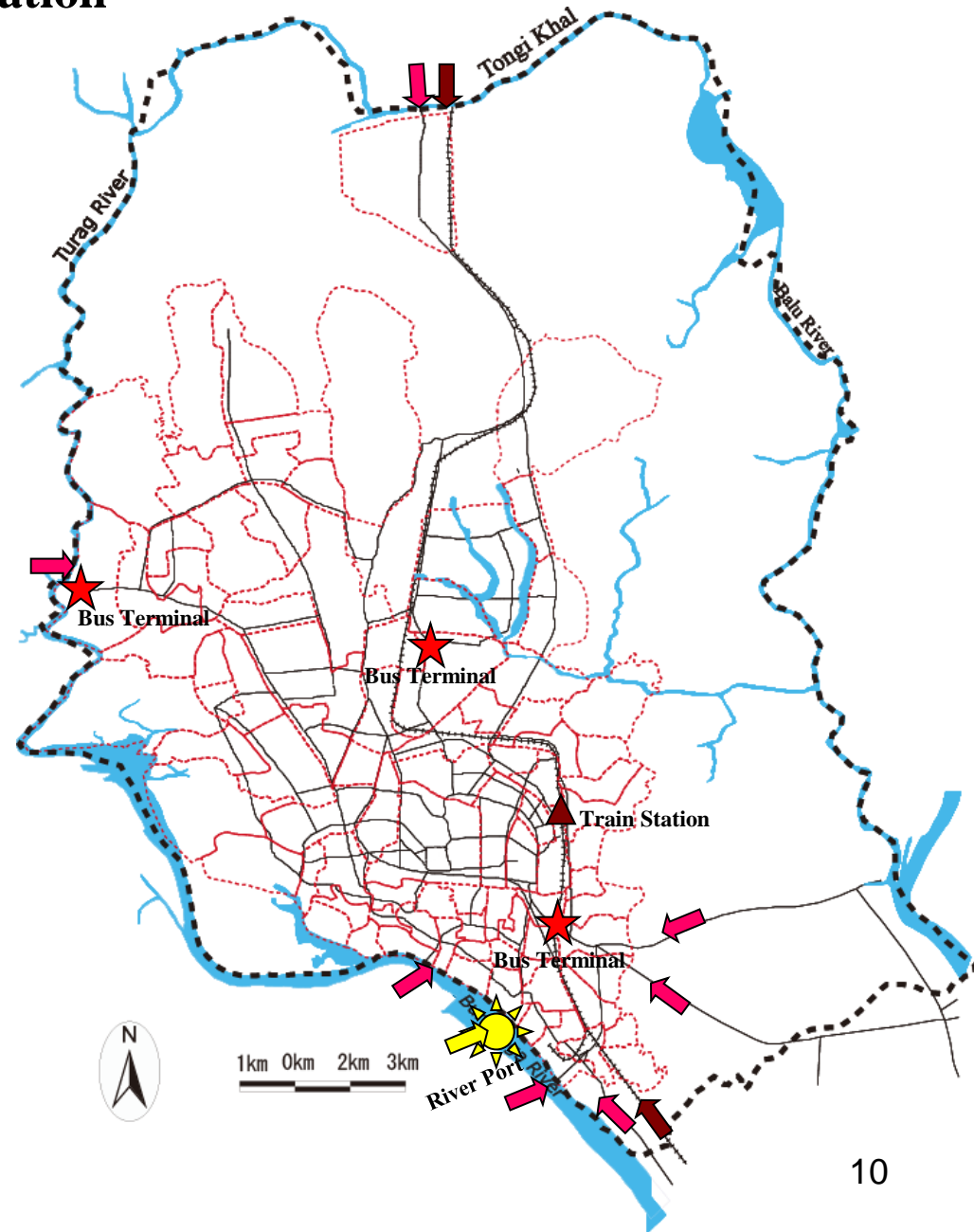
Access Points for Dhaka City Corporation

Dhaka City Corporation has 10 access points for inter-district communication.

7 Road Access

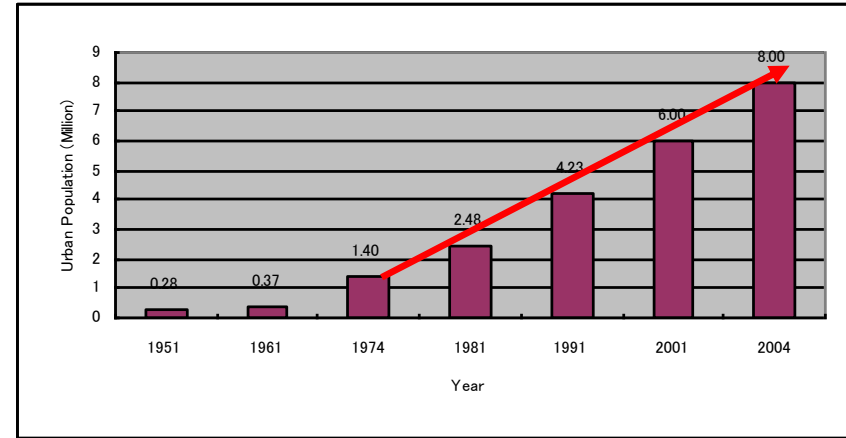
2 Rail Access

1 Water channel



Urban Expansion of Dhaka City

Urban population is increasing very rapidly with the expansion of urban land area in Dhaka City as well as the central urban area of Dhaka City Corporation (DCC).



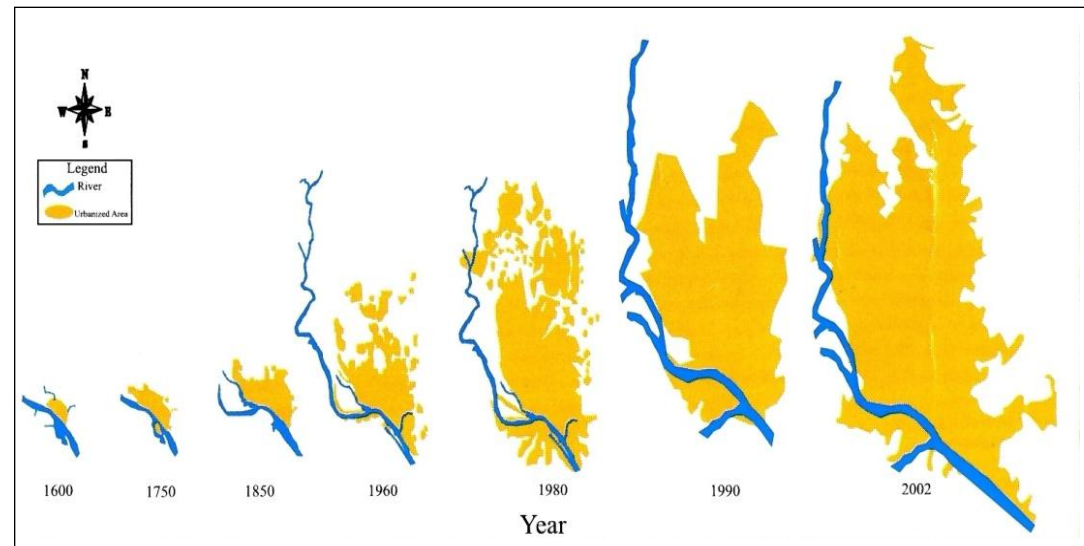
Flow of Population Growth in DCC Area

Source: DCC profile

Population Growth of Dhaka City

Year	Population in DMA Area (Million)	Population in DCC Area (Million)
1901	0.104	----
1911	0.154	-----
1921	0.169	-----
1931	0.196	-----
1941	0.296	-----
1951	0.336	0.276
1961	0.556	0.396
1974	1.774	1.403
1981	3.440	2.476
1991	6.844	4.232
2001	10.710	5.333
2004	11.000	8.000

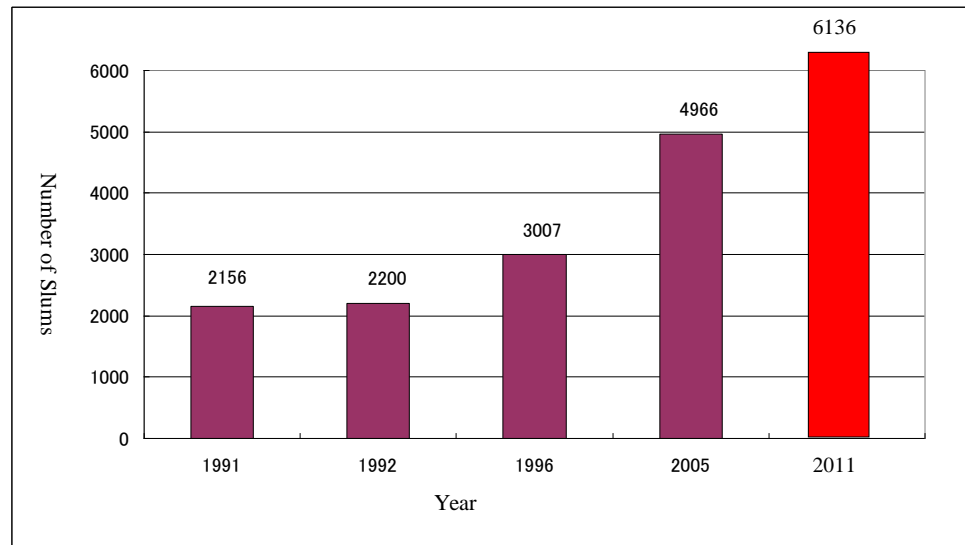
Source: DCC profile and CUS Data



Expansion of Urban Land Area in Dhaka City

Source: DCC profile

Urban Poverty Condition of Dhaka City

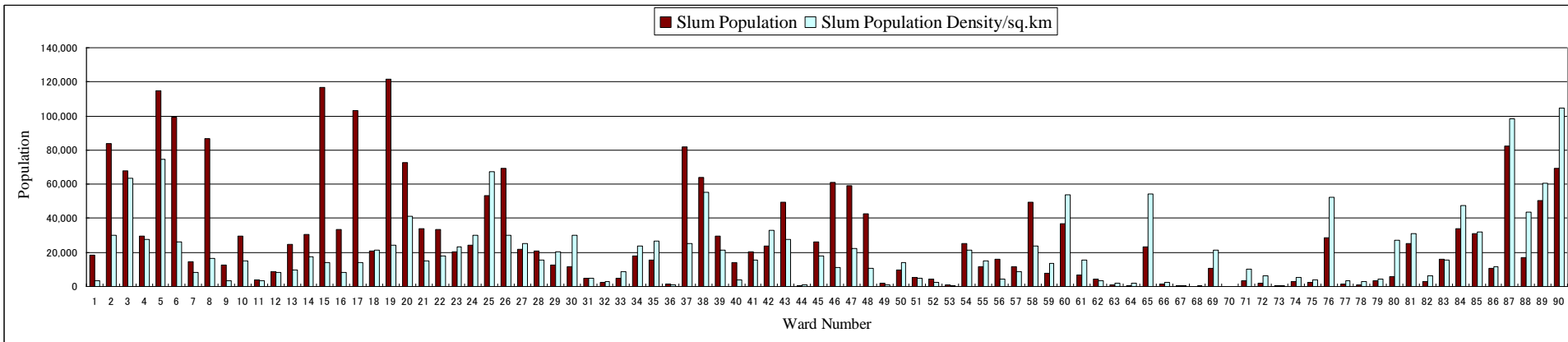


Source: Based on CUS Slum Survey, 2005

Urban Area	Land Area (km ²)	Total Population (Million)	Total Population Density /km ²	No. of Slum Clusters	Slum Population (Million)	Slum Population Density /km ²
Dhaka Metropolitan Area (DMA)	302	11.00	36424	4966	3.40	11258
Dhaka City Corporation (DCC)	145	8.00	55172	4342	2.50	17474

Source: Based on DCC profile and CUS

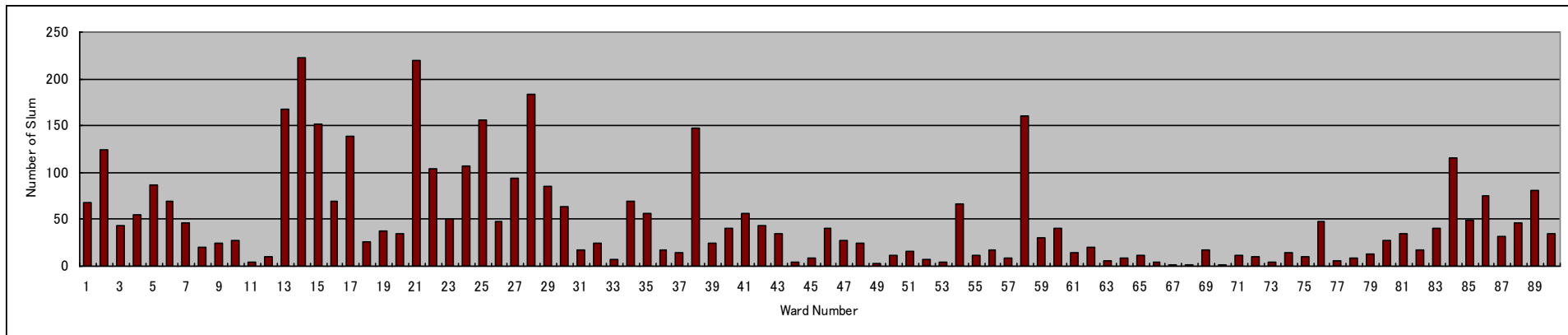
Urban Poverty Condition of Individual Ward (Dhaka City Corporation Area)



Number of Slum Population and Population Density per wards in DCC Area

Source: Based on CUS Slum Survey, 2005

There are no ward without the existence of slum in Dhaka City Corporation (DCC) area of Dhaka City.



Number of Slum in Individual wards in DCC Area

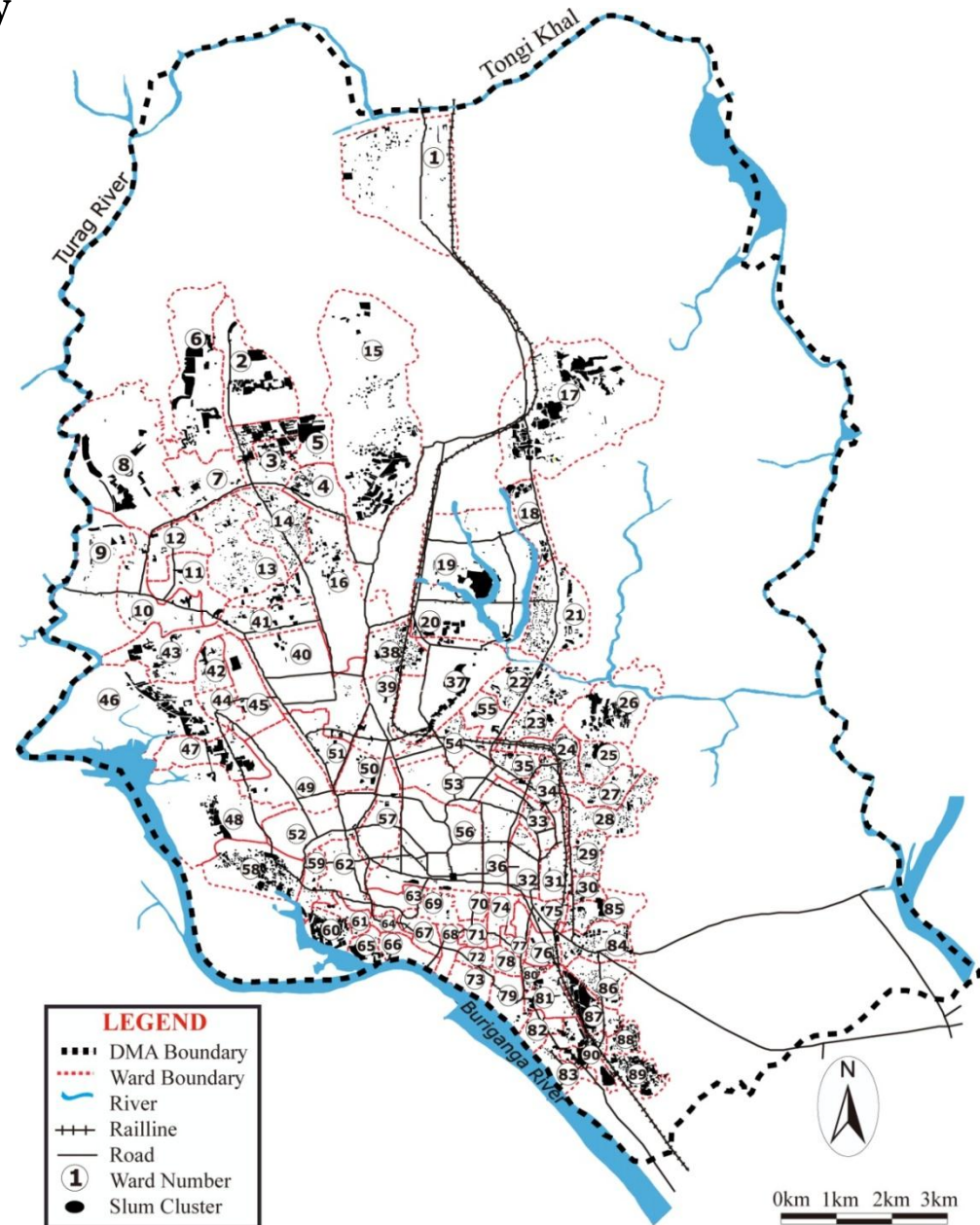
Source: Based on CUS Slum Survey, 2005 13

Existing Slum Location in Dhaka City

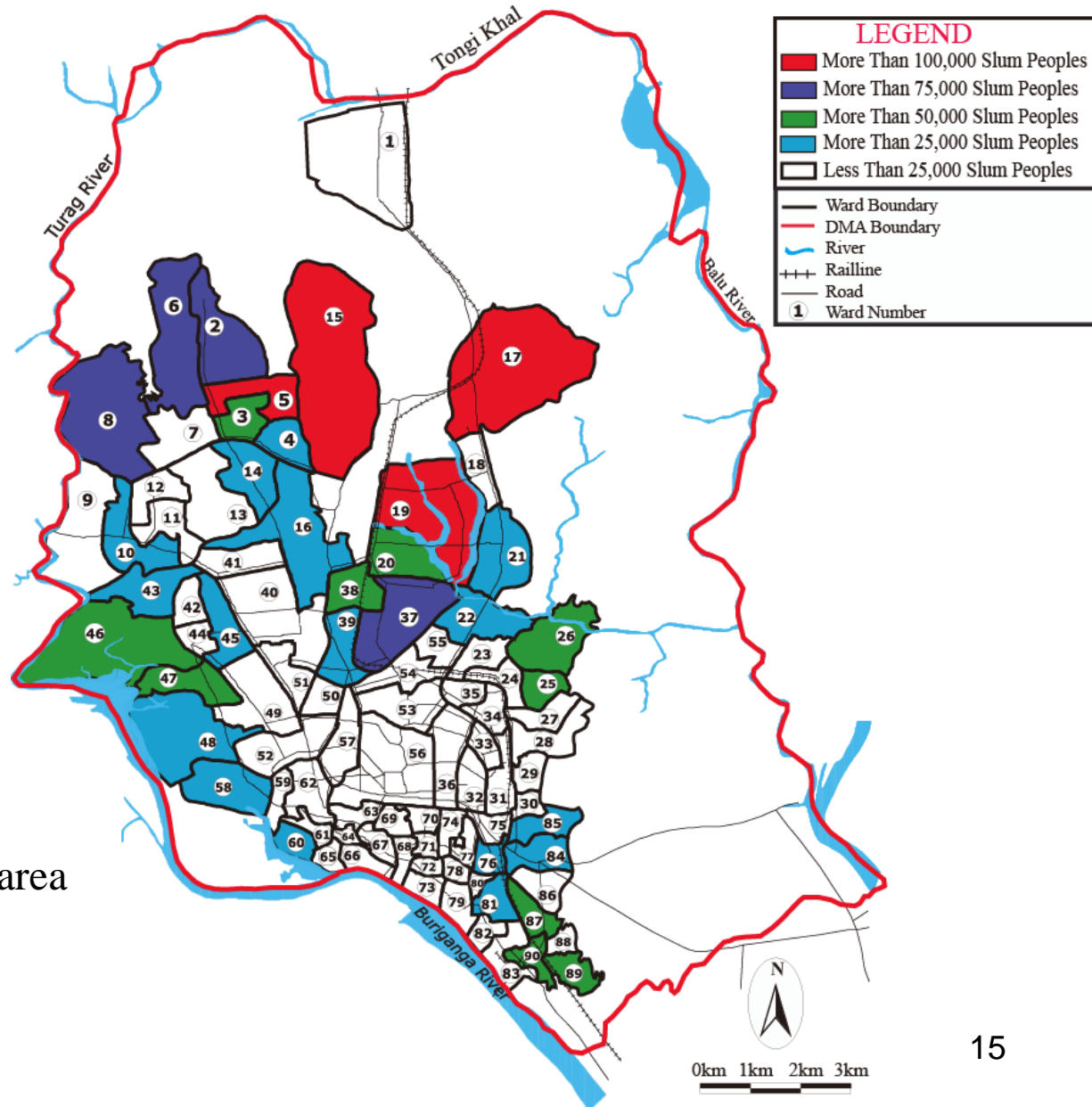
Dhaka City Corporation (DCC) area has more than 4342 slum clusters within 145 sq. km land area in Dhaka City.

Problems in Slum Area

- Poor Environment
- Substandard Housing
- Lack of Basic Public Services
- High Density
- Life Insecurity
- Physical Infrastructure



Most Populated Urban Poverty Area in Dhaka City



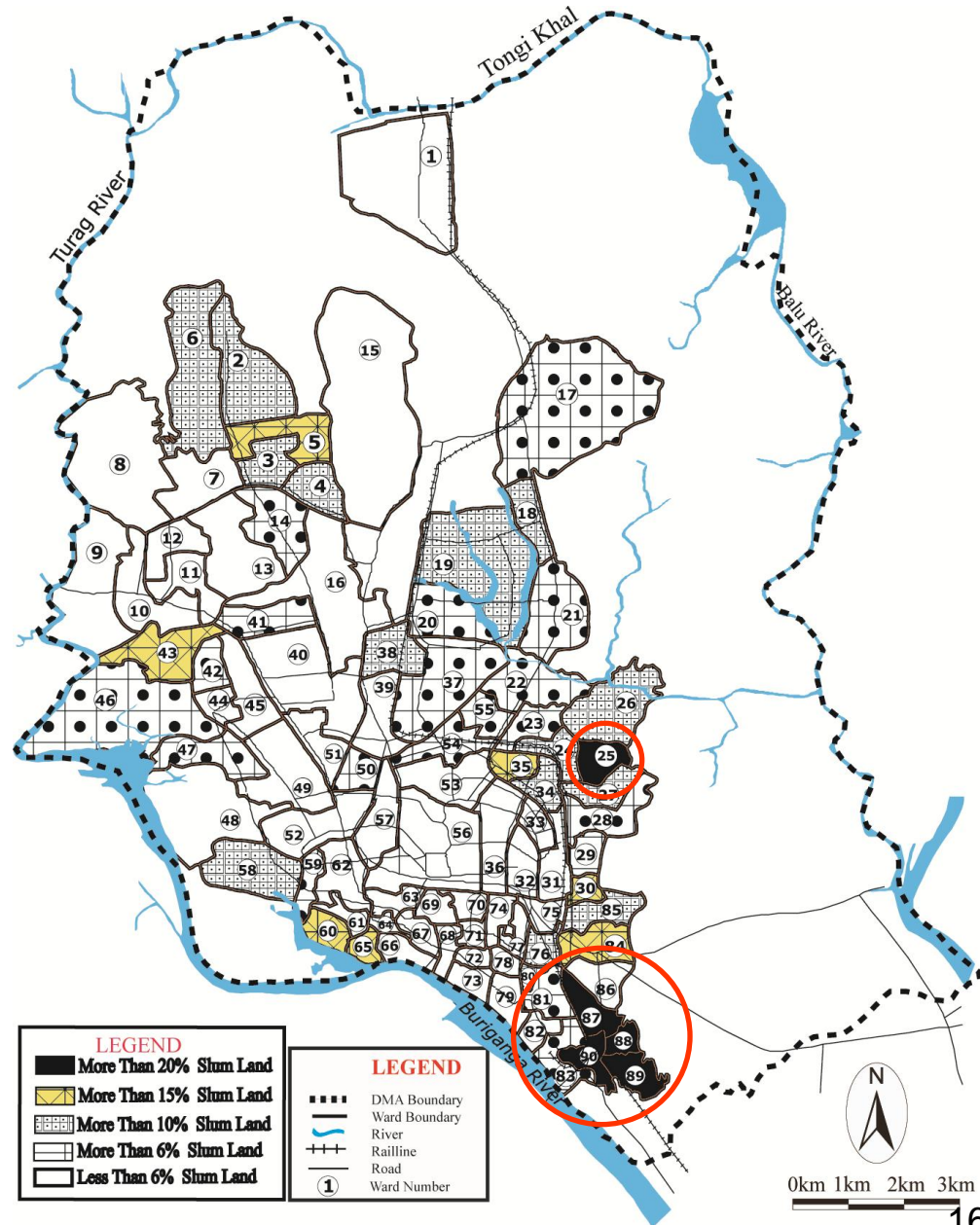
5 Wards has more than 0.5 million slum people.

Most of the slum people are allocated in surrounding urban area

Most of the Slum Occupied Land in Urban area of Dhaka City

More than 7% of total urban land is occupied by slum.

5 Wards has more than 20% land occupied by slum



Three Poverty Block in Dhaka City

A-Block

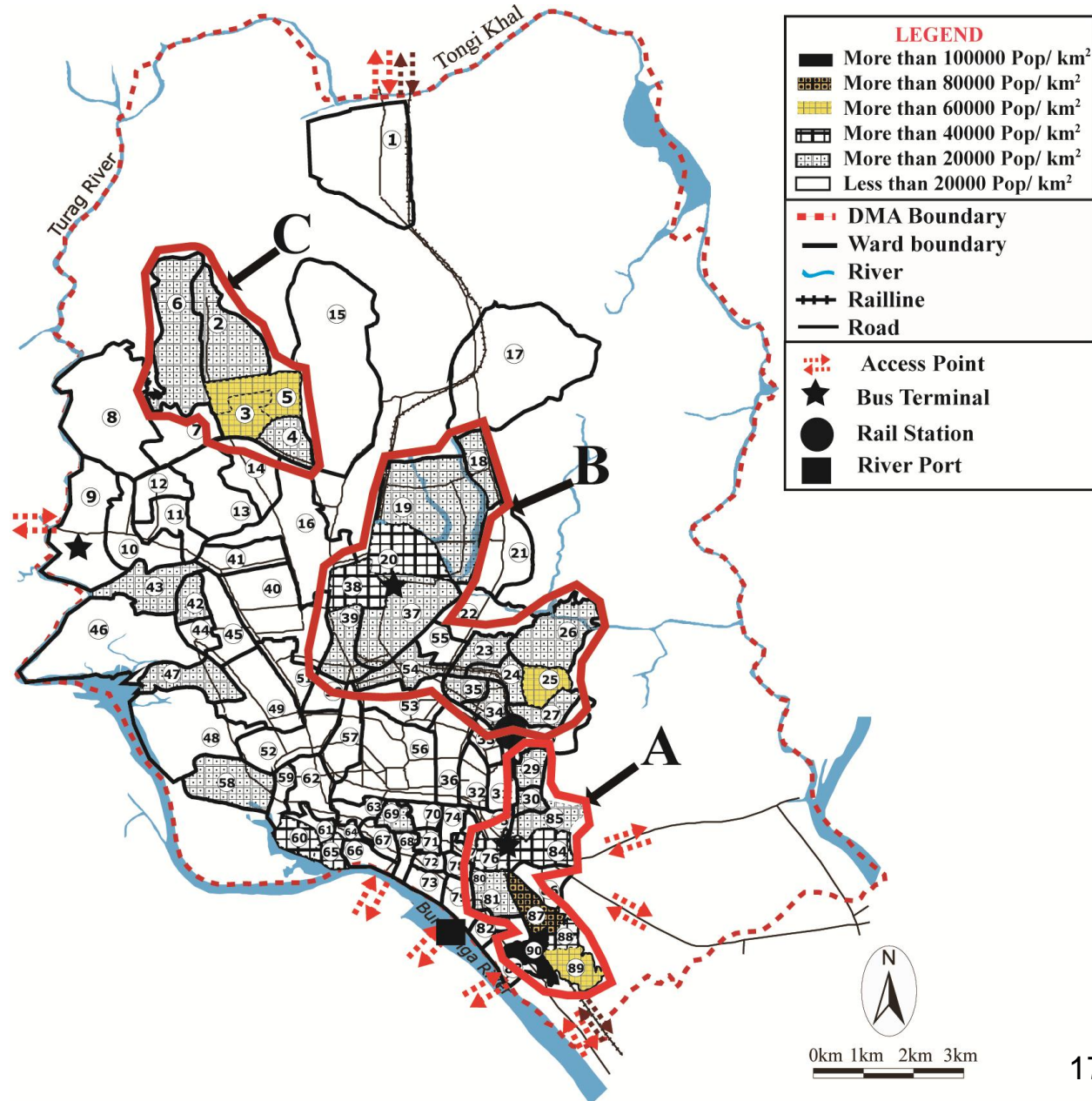
- Old Dhaka
- Access points
- Transaction Points

B-Block

- Industrial Area
- Transaction Points
- Informal Jobs

C-Block

- Informal Jobs
- Garment Factories



Informal Sectors

- A large number of poor people live in **low-income groups without formal skill** in urban area to find a job in Dhaka City.
- Most of them are **rural-urban migrant**, because of work facilities, seasonal food insecurity (*MONGA*), and public services in rural area of Bangladesh.
- **Street vendor is important informal job opportunity** for the poor migrants in central urban transaction points in Dhaka City
- However the urban authority narrated that the **street vendor is a problem** for their urban environment because of informal trade.

Street Vendors Causes of Urban Environment Problems



Source: Field survey, 2007



Source: Field survey, 2007

How Vendors Create Street Garbage Problem

The vendors operated their business on the urban footpaths based on their self designed systems. They have no responsibility for their vending area due to the lack of formalization. Vendors and pedestrians have no guideline to maintain their urban area.

Problems of Vendors Guidelines from the Urban Authority



Unplanned Street Activities

Risk for Pedestrians

Risk for Vehicles

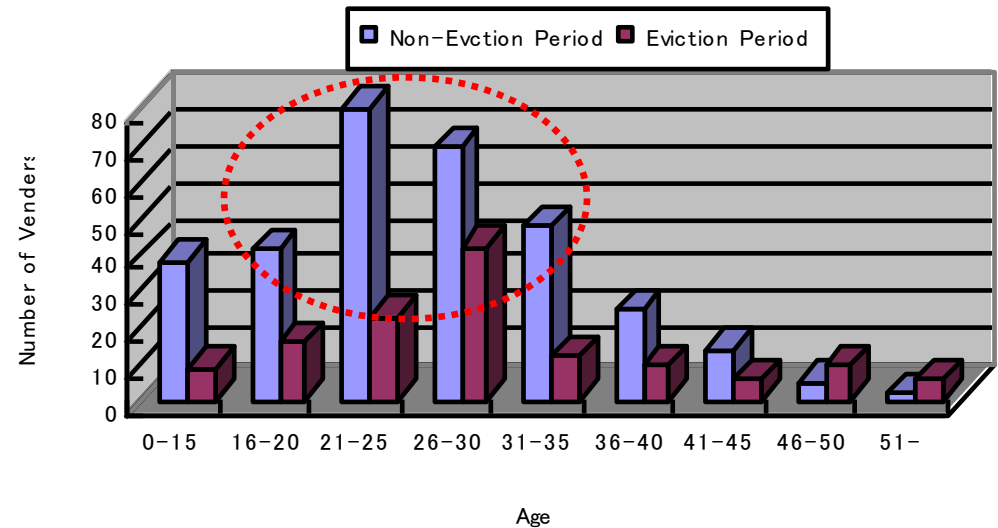
Risk for Street Vendors

Source: Field Survey, 2008

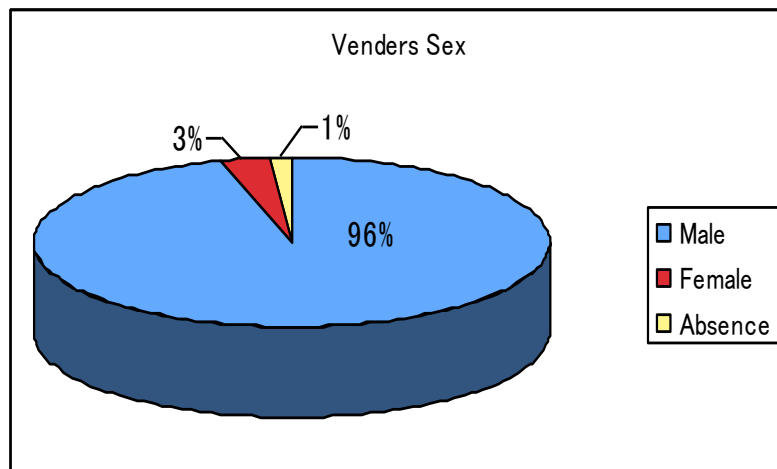
Urban Street Venders in Dhaka City

Venders Age

- Young venders operate business as their job.
- They do not have alternative opportunities.
- Eviction is critical period for the venders.



Source: Field survey , 2007 and 2008



Source: Field survey , 2007 and 2008

Venders Gender

- Street vending is heard job for woman
- Venders harassed by the local authority
- Socially outdoor business is suitable for woman

Child Venders in Dhaka City



Source: Field Survey, 2008



Source: Field Survey, 2008

This children have to be in school at that time but they were in streets for earning money due to the support for their family. Sometime their street vending is the main income source for their family. This kind of children grow up as urban street venders without formal skill in developing urban area

Necessity of Urban Street Vendors

Based on this study, two parts of urban dweller get benefit from urban street vendor in Dhaka City as well as Asian developing city.

As Job

A part of urban dwellers maintain their urban lives by street vending as their job in Dhaka City. The vendors have **no alternative opportunity** to maintain their lives expenses **without street vending**. One evicted street vendor opinion is that, *I have no saving, since my income was very low. How will I provide food for my family of four now? He requested the government to introduce alternative source of income to the evicted vendors* (The Daily Star, January 19, 2007).

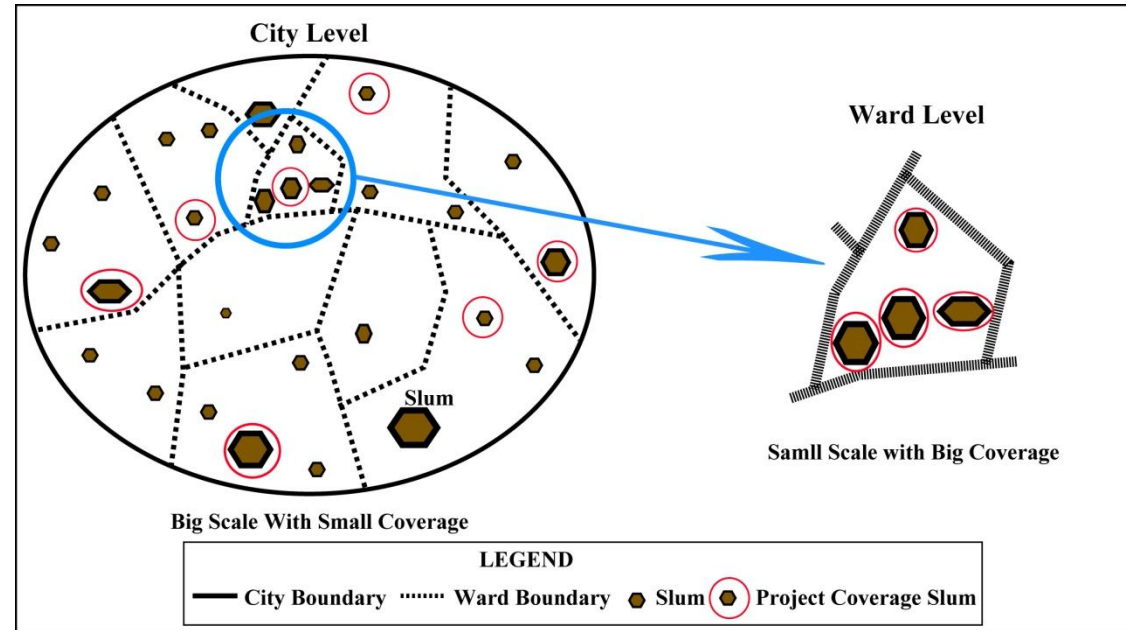
As Shop

More than 60% of urban dwellers **depend on street vendor** in Dhaka City for their urban lives. Based on Dhaka University student opinion that, *street vendor is comparatively cheaper rates than the market* (New Age, September 25, 2006). Not only the low-income group but also the middle-income and high-income group of urban dwellers **buy some household goods** from street vendors.

Existing Development Project and Improvement Process

S. No	Project Name (Year)	Donor	Coverage Area	Development Work	Target	Achievement	Evaluation
1	Slum Improvement Project (SIP) (1985-1995)	UNICEF	25 Cities / towns with 185 slum clusters. Within this capacity, 18 slum clusters from Dhaka	Infrastructure development, primary health care, credit provision, women's empowerment	To improve the basic service and women empowerment for urban poor.	This project achieved 40,000 women members	This project may have achieved positive results, but they were very few for the large number of urban poor.
2	Urban Poverty Reduction Project (UPRP) (1996-2001)	ADB	As review and large scale implementation of SIP	To improve the socio-economic and physical condition such as education, health care, sanitation etc.	To prepare a project for government to improve the socio-economic and physical condition for the urban poor	They cannot achieve their pilot project as a shelter for poor due the land problems	In actuality it was a 15 year project, and they implemented macro level process like the 18 slum clusters from Dhaka City.
3	Urban Basic Service Delivery Project (UBSDP) (1996)	ADB	100 centre from DCC area	Environmental improvement, health care, education, and income generation	This project target was to improve the basic services for urban poor	May be they can upgrade service for few people but what about others?	But how these ideas be continued for the urban poor and for the big poor population?
4	Local Partnership for Urban Poverty Alleviation Project (LPUPAP) (2000-2006)	DFID & UNDP	11 towns / cities Excluding Dhaka City	Infrastructure, socio-economic, water and sanitation, skill development, women empowerment	To improve the life quality of 0.6 million urban poor and empower women	This project was to achieve (a) community development process as/by women empowerment	Their project implementation process is to involve the community people to improve their area by themselves.
5	Urban Partnership for Poverty Reduction Project (UPPRP) (2007-2015)	DFID & UNDP	30 towns / cities including DCC	It was the post-project of LPUPAP	To improve the life quality of 3 million urban poor as large scale of LPUPAP	On going project in Dhaka City and other 29 cities in Bangladesh	LPUPAP implementation process is quite good

Development Project Implementation Process in Dhaka City



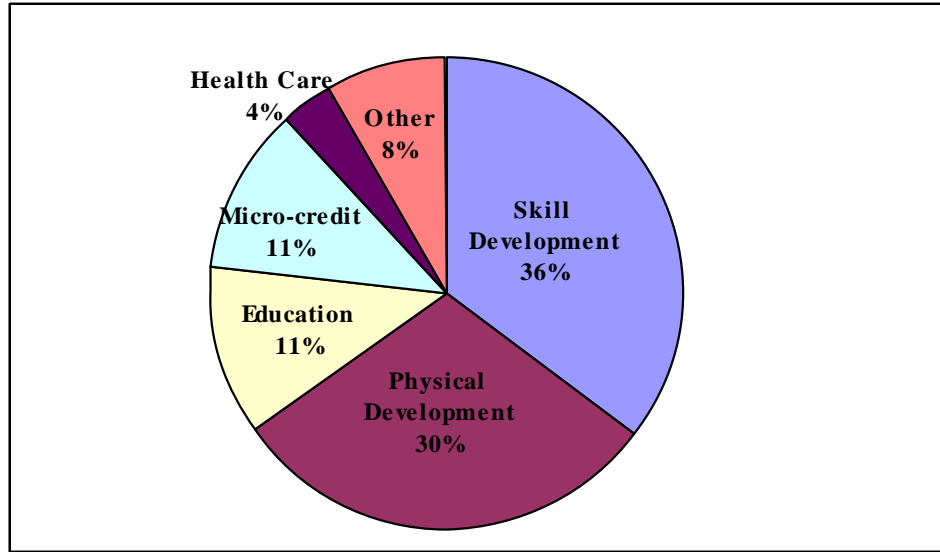
✓ Big Scale with Small Coverage

Based on the existing urban poverty reduction process, the local and international development organizations implement their project as big scale with small coverage in Dhaka City. According to their improvement process, the development project cannot cover their total problems from their project implemented area.

✓ Small Scale with Big Coverage

Based development project achievement and research review, development organizations have to implement their improvement work as small scale with big coverage. Otherwise, improvement work cannot sustainable in Dhaka City as well as other developing urban area.

Lack of Improvement Issue for the Urban Poverty Reduction Process



Slum People Opinion on Their Best Improvement



Children play in dangerous place

Gap of Poverty Reduction Process

- Poor people need skill development or education program
- Development project improve the physical infrastructure
- Local NGOs provide them the micro-credit

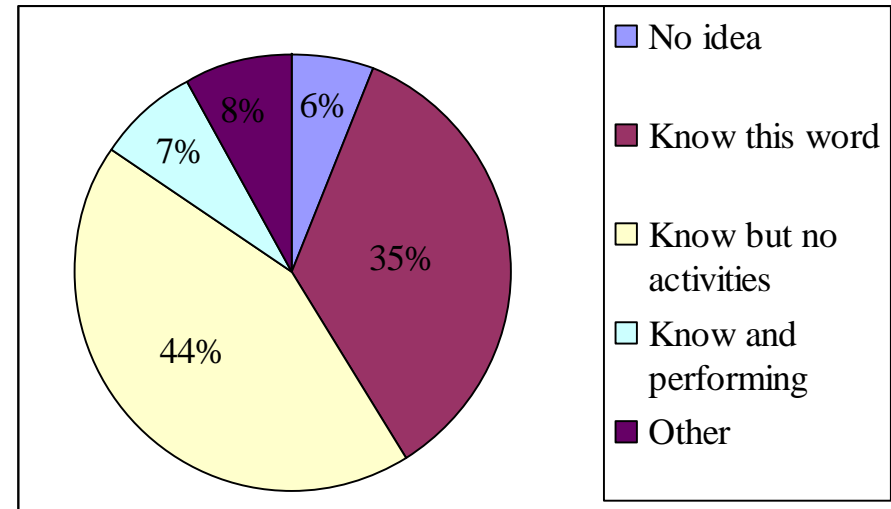
Lack of the Local Community Awareness

The children playing in this place which were very dirty drain in this slum area. It is easy for them to be sick in any kinds of dangerous sickness. This kind of activities is mainly related with the local community awareness for their quality of life in urban area.

Community-Based Management Performance

➤The local community has no performance to maintain their surroundings.

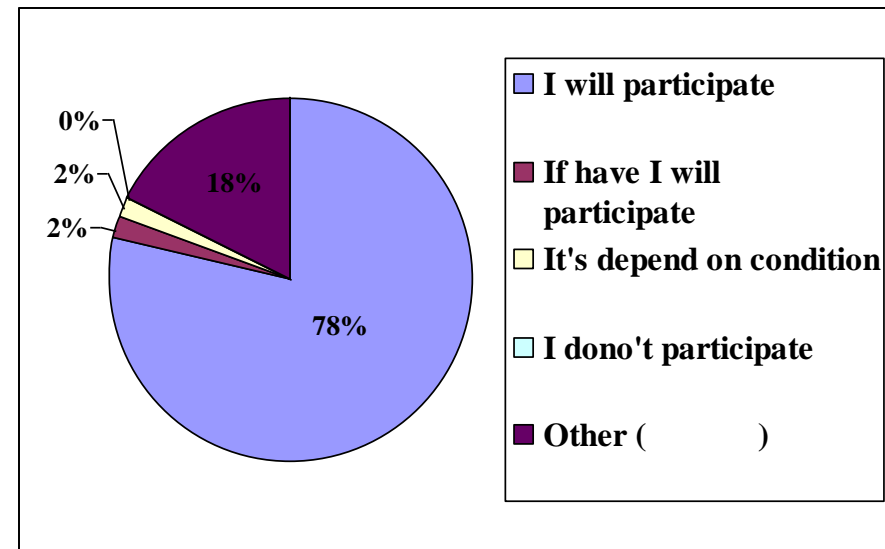
➤They know this issue but they do not understand how to perform in their area.



Existing Community Performance







➤They intend to participate the community-based improvement

➤But they do not have guideline from the development authorities.



Intention of Community-Based Performance

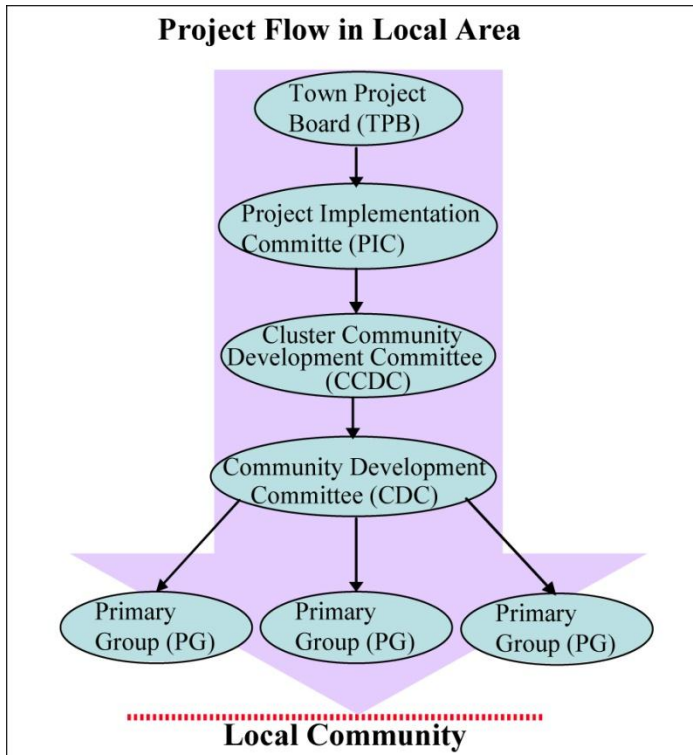
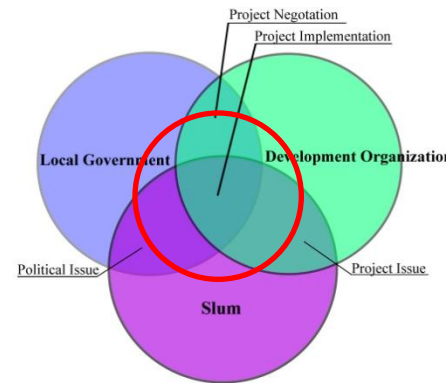
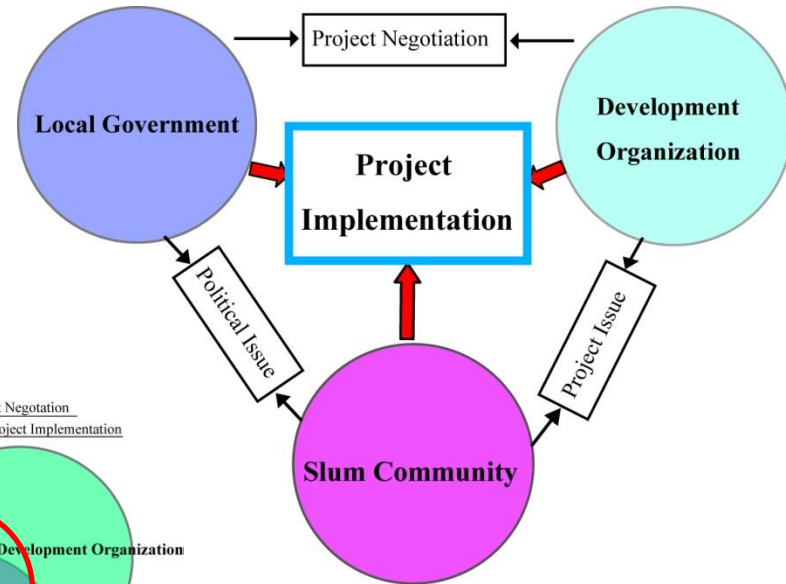
Comparative Study Area in Dhaka City

Key Factors	Koril Part-1	Bauniya Bad D Block	Bauniya Bad E Block
Number of Household	4,674	2,017	1,439
Number of Population	17,046	8,813	7,092
Land Area	36.4 Hectares	8.05 Hectares	4.43 Hectares
Map			
Existing Development Organizations	BRAC Prosika Jubok- micro credit Hard to rich MSS-education,	Plan Bangladesh DSK UPHCP UCEP Surovi Phulki	Plan Bangladesh DSK UPHCP Surovi Phulki
Social Condition	-Save area for crime people -Biggest poor settlement -Have illegal business -Huge number projects -Mostly political influence -Different types of worker	-Comparatively big poor area -Mostly garment worker and rickshaw puller -Have illegal business -Existing development project -Local political influence	-One of leading poor cluster -Mostly garment worker and rickshaw puller -Crime people existence -Existing development project -Local political influence
Community Issue	-No community work -Have project idea -No maintenance on garbage	-No community work -Have no good idea project -Pay 15BDT for garbage	-Some community work -Better than the D Block -Pay 20BDT for garbage
Physical Condition	-No good footpaths and drains -Most of the tin shed housing	-Have good footpaths and drains -Mostly semi-raw housing	-Have good footpaths and drains -Tin shed and semi-raw housing
Living Condition			

Development Project Implementation Process

Authority and Responsibility

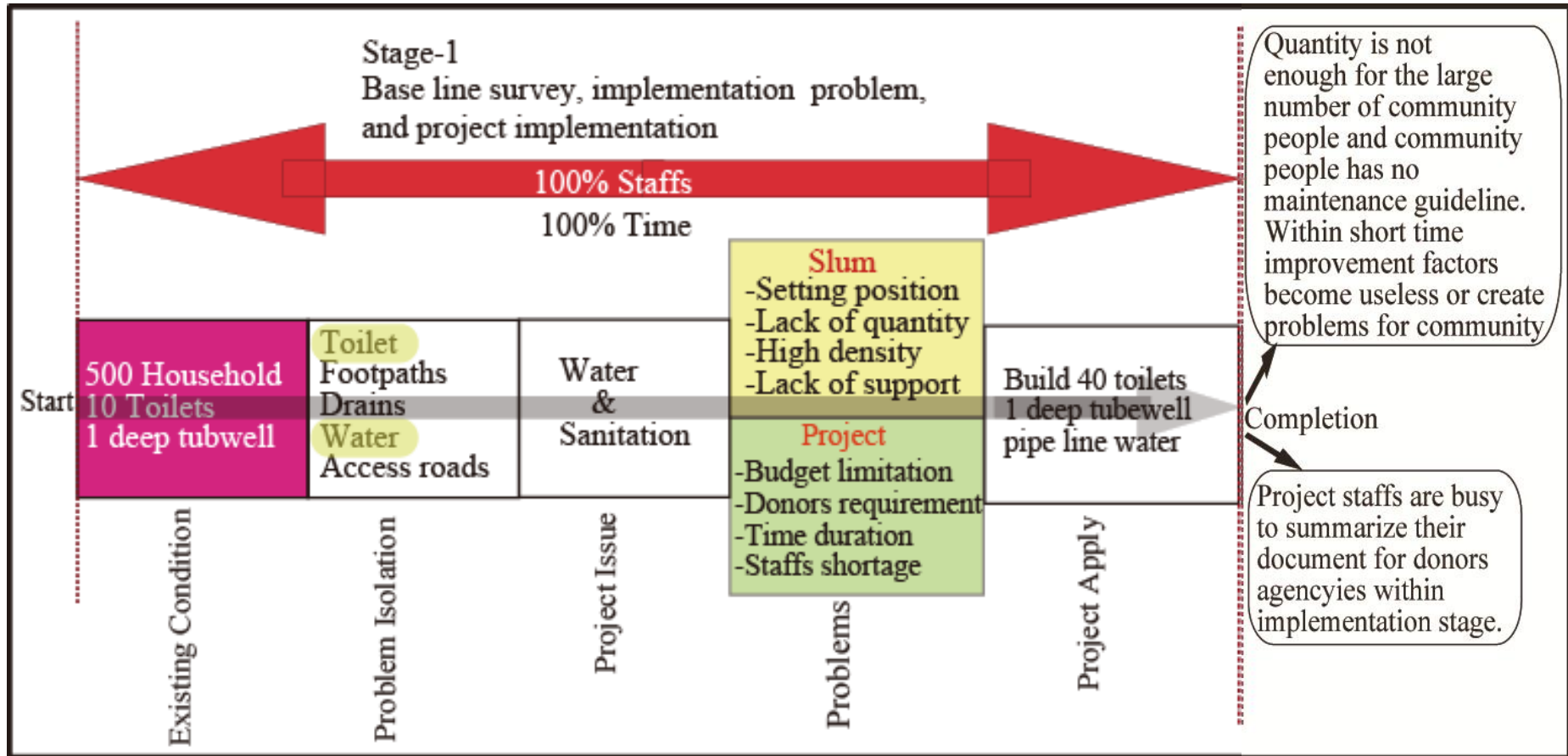
Development authorities implement their development projects in slum area with negotiation of local government and local community people in slum area of Dhaka City. Based on this three dimension, a few number of areas covered by the development project in the real field.



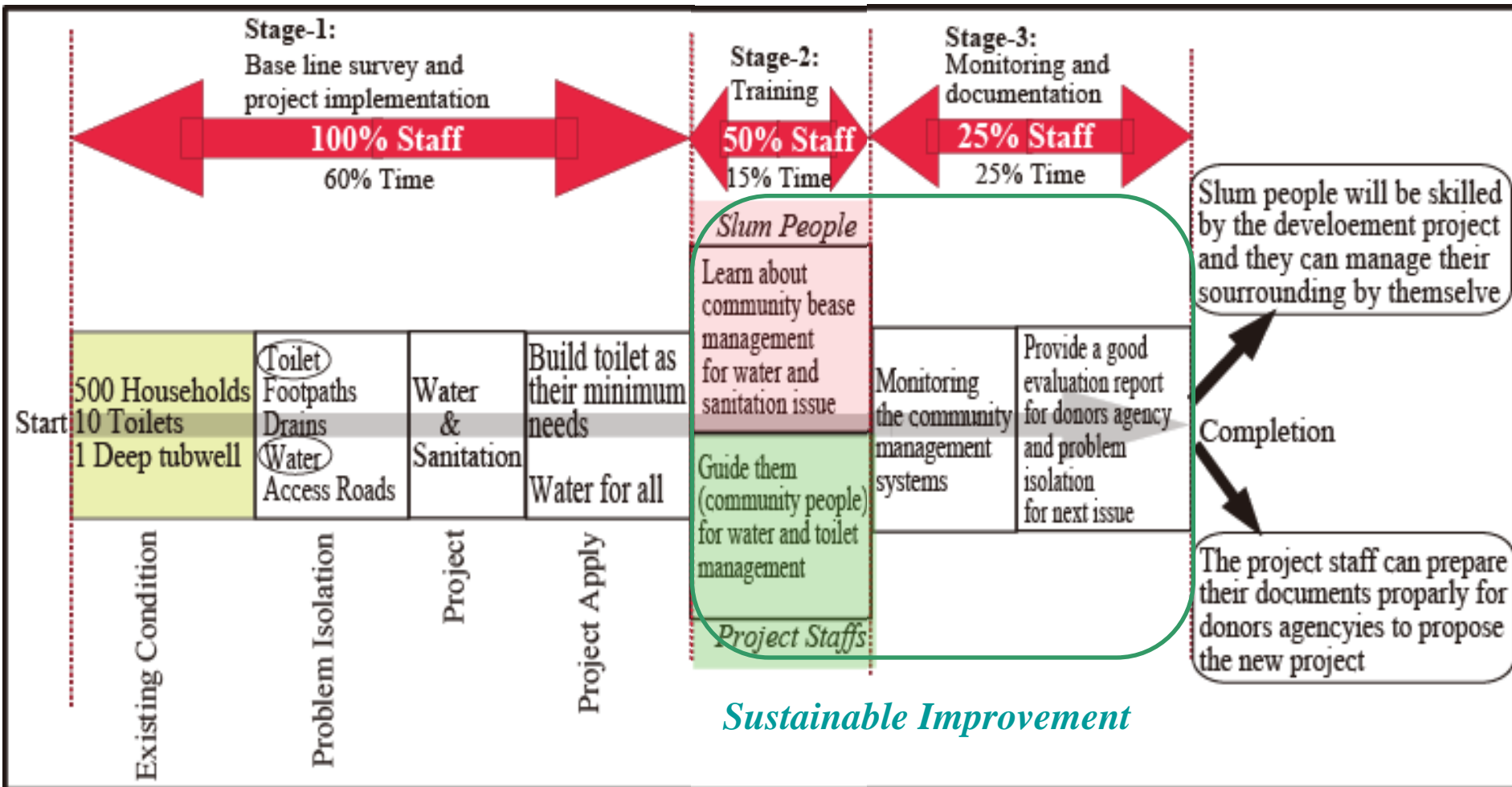
UN-Habitat Project Implementation Process

This is the UN-Habitat on going project implementation process in Dhaka City. Due to this implementation process local community cannot be familiar on their improvement work as well as the maintenance systems for their development issues in Dhaka City.

Existing Development Project Implementation Process



Sustainable Slum Improvement Model



Overall Conclusion and Suggestion

Each of the ward in DCC area has minimum number of slum as well as poor people existence in central urban area of Dhaka City. Rural-urban migration is the main door of urban poverty issue in Dhaka City.

Urban Migration

- ✓Lack of job opportunity and food insecurity in rural area
- ✓Poor people are migrate in urban area for find a job
- ✓Available informal job opportunities in urban area
- ✓They are live in urban informal settlements for their income level

Informal Job Opportunities and Informal Settlements

- ✓Informal jobs pull the rural poor in urban area
- ✓The urban informal settlements are the main living area for poor migrant people
- ✓Mainly, the urban poor allocated in job areas or rural-urban transaction points

Urban decentralization is the better solution for the protection of poor migrants and the poor people can find job in their local area and factories can find labour with cheap salary.

Overall Conclusion and Suggestion

■ Local Government and Local Community Performance

- ✓ The local government and the local community are the main authority to maintain their living condition.
- ✓ For the absence of basic public facilities, the poor people cannot upgrade them.
- ✓ Due to the lack of the local community awareness, their living environment become poor.
- ✓ The development organization can support to the poor people but they have to perform to maintain their living environment and quality of life.

■ Development Project Sustainability

- ✓ Development organization has to considered their project implementation coverage
- ✓ The development authorities have to considered the local community awareness
- ✓ Focusing the sustainable improvement process for project implementation issue
- ✓ Due to the project sustainability, development authority have to apply the sustainable improvement model with community-based management.



Euglena **GENKI** Program

Nutrition to children in the world

Introduction Of

Euglena Bangladesh Office

ডঃ মোহাম্মদ আখেরুজ্জামান

Mohammad Akharuzzaman Ph. D

モハメド・アケルザマン博士(工学)

Head of Bangladesh Office

Euglena Co., Ltd. Bangladesh



euglena Co., Ltd.:

A venture capital company spun off from a research laboratory in University of Tokyo's Faculty of Agriculture, in December, 2005, euglena became **the first in the world** successfully to mass culture euglena, a microscopic organism, out of doors.

euglena Co., Ltd., is **the only enterprise in the world** that is commercially mass culturing euglena.



World first big scale Euglena cultivation technology

In December 2005, we found world first big scale Euglena cultivation technology with collaboration Tokyo University.



Research
Development @
Tokyo University



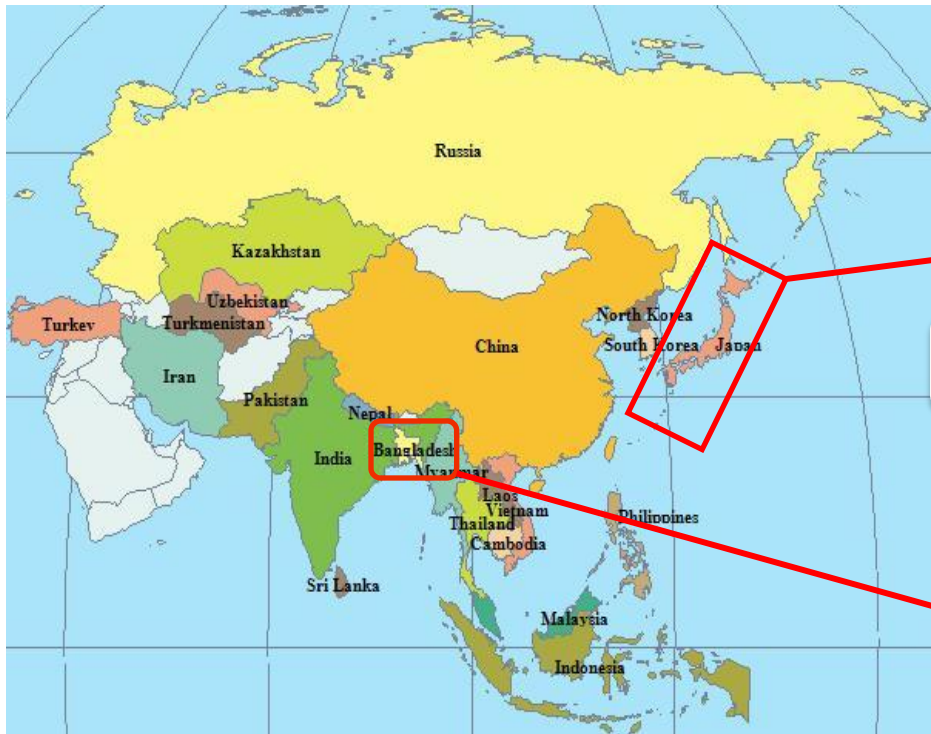
Founder Member from
Tokyo University



Research Equipment @ Ishigaki Island, Okinawa

Business Center Location

Four business centers located in Japan and One overseas Office located in Dhaka. Our overseas business center to take an initiative to solve the malnutrition in Bangladesh.



Iidabashi Office
(Tokyo)



Head Quarter • Central
Research Center (Tokyo
University Hongo
Campus)



Yaeyama Co., Ltd
(Subsidiary :
Production base)



Manufacturing
Research Center
(Ishigaki Island,
Okinawa)



1st Overseas Office
in Bangladesh



Euglena GENKI Program

Major Products List

- 「Euglena Farm」 Brand



「Euglena・ farm Green Tea」
4,410Yen 3.5g×30Packs



「Euglena・ Bear」
1,260Yen 6Pic



「Euglena・ Plus」
6,720円 30 Capsules



「Euglena・ Bagel」
350Yen/Pic

- Supplement



「Euglena Pure」
6,825Yen 90 Capsules

- Other Food



「Euglena・ Biscuit」
500Yen 5 Pic
※Sale only Tokyo University Community Center

- Cosmetics



「Selleha」 Sheet
Mask
6,980Yen 5 Pic



Nutriments in Euglena and their absorption

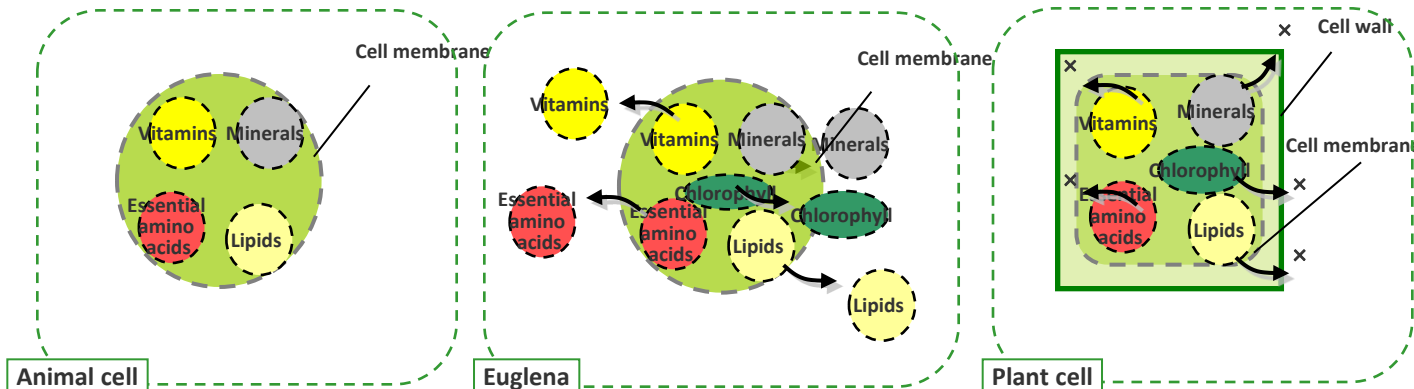
59 nutriments

Vitamins	Minerals	Amino acids	Other	Unsaturated fatty acids
α-carotene	Zinc	Valine	β-Glucan	DHA
β-carotene	Phosphorus	Tyrosine	(Paramylon)	EPA
Vitamin B1	Calcium	Tryptophan	Chlorophyll	Palmitoleic acid
Vitamin B2	Magnesium	Glycine	Lutein	Linoleic acid
Vitamin B6	Sodium	Serine	Zeaxanthin	Linolenic acid
Vitamin B12	Potassium	Cystine	GABA	Eicosadienoic acid
Vitamin C	Iron	Aspartic acid	Spermidine	Dihomo γ-Linolenic acid
Vitamin D	Manganese	Glutamic acid	Putrescine	Arachidonic acid
Vitamin E	Copper	Proline		Docosatetraenoic acid
Vitamin K1		Threonine		Docosapentaenoic acid
Folic acid		Methionine		
Niacin		Phenylalanine		
Pantothenic acid		Histidine		
Biotin				

As of June 2, 2009

Analysis conducted by Japan Food Research Laboratories and other institutions.

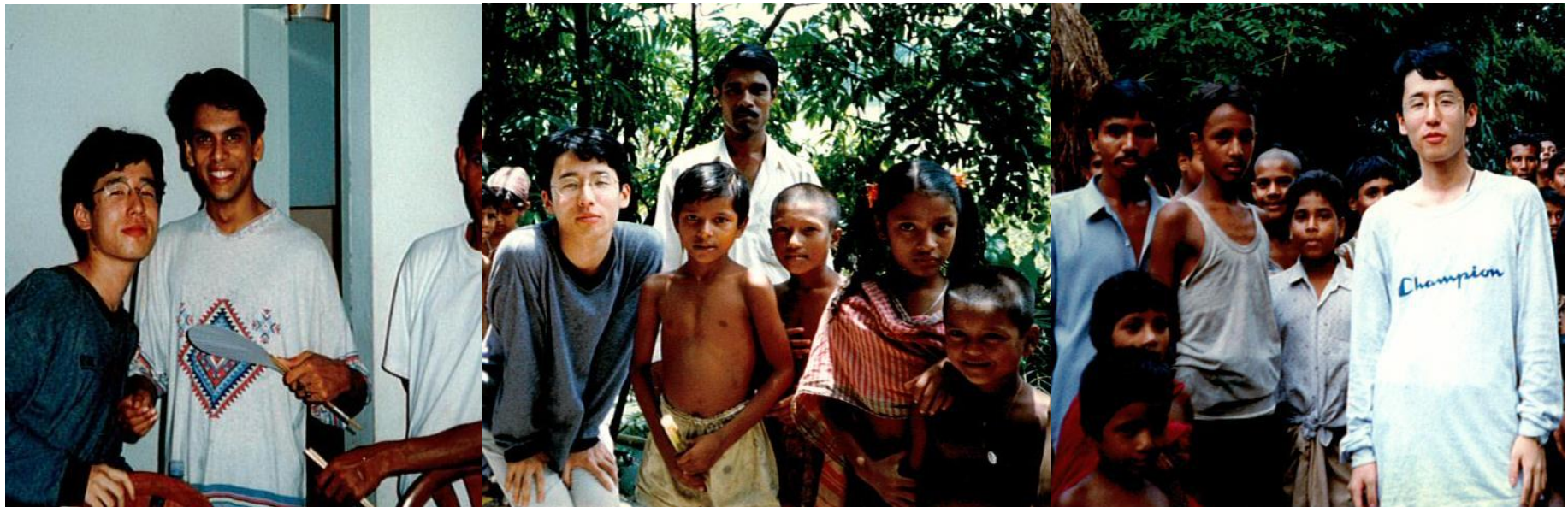
Absorption of nutriments



Because Euglena cells, like animal cells, do not have cell walls, they absorb nutriments more efficiently than Spirulina or Chlorella can.

Reason of Euglena Research

Q: Why **Euglena** Research and aim of industrialization.

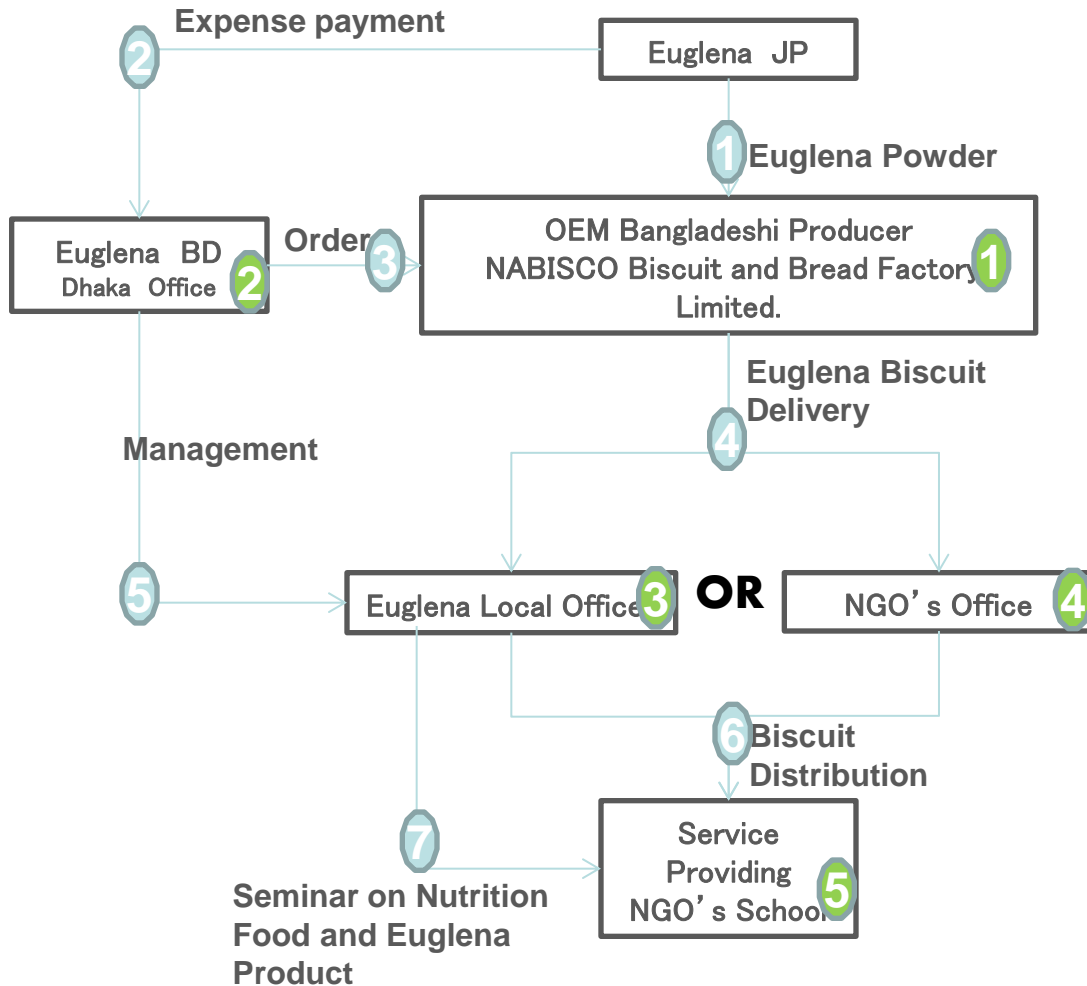


A: Founder and president of Euglena visited Bangladesh and saw the real poverty and malnutrition people. At that time he decided to produce nutritional food and solve this problem.



Euglena GENKI Program

Project Implementation Map:



- | | | | |
|---|---|---|--|
| 1 | We have to check the exporting process with partner | 1 | Check Points (Product Design, quality, packing) |
| 2 | company How can we send the money to Bangladesh | 2 | Local management and communicate with Euglena Japan |
| 3 | Cost and volume negotiation | 3 | Project management, field survey, and communicate with Euglena Dhaka |
| 4 | Company will delivered by their own transport to local office or NGO office | 4 | NGO will support us all kinds of local issues |
| 5 | Administrative and financial management | 5 | Monitored by Euglena staffs and teach them about social awareness |
| 6 | Biscuit distribution supported by NGO | | |
| 7 | Euglena staffs and nutrition specialist | | |

Euglena **GENKI** Program

First Overseas Office Opening for Euglena Co., Ltd. In Bangladesh



Exchange Meeting for Project Implementation



Meeting with Teachers



Meeting with Parents



Meeting with Students





Euglena **GENKI** Program

CMC Meeting, Geneva Camp SUROVI school, Mohammadpur





EU Assisted School Feeding Program Visit: Mohes Khali, Cox Bazar



Meeting with Mr. Mikio Hataeda Chief Representative of JICA Bangladesh





3rd Biscuit Production Visit with Mr. Wakahara





Euglena GENKI Program

Project Opening Ceremony





Biscuit Distributed By Izumo San



Thanks for Your Attention
