J. Sylhet Agril. Univ. 10(2): 39-46, 2023 **ISSN: 2308-1597**

LIFESTYLE STATUS OF SLUM PEOPLE IN SYLHET CITY OF BANGLADESH

F Islam[1], MSA Talucder[1*]; M Das[1], AU Khan[1], MS Uddin[1]

[1]Department of Agroforestry and Environmental Science, Sylhet Agricultural University, Sylhet 3100, Bangladesh

(Available online at www.jsau.sau.ac.bd)

Abstract

The study examined Sylhet city slum dwellers' education, housing, occupation, sanitation, health services, diseases, lack of fundamental knowledge and training, and other issues to determine their livelihood situation. Data were collected through face-to-face interviews with 138 randomly selected respondents from nine wards (No. 6, 7, 9, 10, 11, 12, 19, 23, and 26) of Sylhet City from September'2018 to March'2019. Focus group discussion (FGD) was done to validate the information. Collected data were analyzed using descriptive statistics such as frequency counts, percentages, means, standard deviation, and ranks in SPSS. The majority of the slum residents (43.5%) came from the Sunamganj district in the research area. An estimated 53.62% of them were illiterate. According to the findings of this study, every family lives in a slum in a deplorable environment without sanitation. The slum dwellers work as day laborers (31.88%), rickshaw pullers (18.84%), masons (14.49%), home servants and drivers (8.70%), service holders and shopkeepers (4.35%), hawkers (2.90%), etc. Monthly slum income ranged from Tk. 7,500 to 14,950. About 59.42% of slum people depended on pharmacy/quack for their treatment. It was also observed that most of the slum dwellers were affected by various kinds of seasonal and waterborne diseases like fever (85.51%), cough (50.72), diarrhea (43.48%), skin diseases (29.71%), headache (20.29%), jaundice (14.49%), dental problem (13.04%), asthma and back pain (10.14%), diabetic (7.25%) etc. Possible reasons for diseases were reported as the damp environment (46.38%), lack of balanced nutrition (43.48%), water pollution (30.43%), adulterated food (26.09%), etc. They require different need-based training and support for their livelihood improvement. It was supposed that slum people lacked basic requirements, the bottleneck of a sustainable city. Thus, the findings recommend a holistic approach to address multidimensional sustainability challenges that influence slum residents' lives within the country's purpose-driven development policy for Sustainable Development Goals (SDGs).

Keywords: Urban slum, Lifestyle, SDG, Sylhet, Bangladesh

Introduction

Slums are densely populated metropolitan areas with decaying homes and inadequate infrastructure, mostly inhabited by the poor (Kalyanasundaram & Kosalram, 2020). Sustainable slums are characterised by their ability to purify the environment, generate energy, and produce food and products (Elrayies, 2016; Gund and Deshmukh et al., 2023). The sustainable development goals (SDGs) are a universal plan for all countries to end poverty, protect the planet, and ensure prosperity for all. They are a set of 17 goals that include 169 targets. Among the goals, the SDG 11 targets identify key factors that must be addressed to make cities more sustainable, inclusive, resilient, and safe, which include (i) safe and affordable housing and basic services; (ii) safe, sustainable transport systems; (iii) inclusive urbanization and participatory, integrated planning; (iv) cultural and natural heritage; (v) resilience to disasters; (vi) reduced environmental impact of cities; (vii) green and public spaces; (viii) rural-urban linkages; (ix) integrated policies and plans; and (x) financial and technical support for sustainable and resilient buildings (UNEP, 2019).

Sustainable city, urban sustainability, or eco-city is a city designed with consideration for social, economic, and environmental impact (Bayes, 2018), and resilient habitat for existing populations, without compromising the ability of future generations to experience the same. Bangladesh has a noticeable achievement in poverty reduction, there still exists a substantial portion (24.3%) of people live below the poverty line, where urban poverty is recorded at 18.9% (BBS, 2017).

According to BBS (2014), after the independence of Bangladesh, the urban areas of the country especially the big cities like Dhaka, Chittagong, Khulna, and Rajshahi were confronted with the problems of a sudden influx of rootless, landless, poor, and unemployed people from across the country in search of their livelihood.

***Corresponding author:** MSA Talucder, Department of Agroforestry and Environmental Science, Sylhet Agricultural University, Sylhet-3100, Bangladesh. Email: talucdermsa.aes@sau.ac.bd*

Many of these people were jobless, capitalless, homeless, and had no other alternative other than to live in the slum areas. Slums are neglected parts of cities where housing and living conditions are appallingly poor. Slums range from high-density, squalid central city tenements to spontaneous squatter settlements without legal recognition or rights, sprawling at the edge of cities. Some are more than fifty years old, and some are land invasions just underway (UNDP-World Bank, 2000).

Urbanization is increasing progressively with the pace of development. The urban population was 8.8% in 1974 and it become about 30% of the country's population (BBS, 2014) of which about 55% of the population lives in urban slums. There are huge variations in population size, density, the percent of the urban population living in slums, and sanitation conditions among the different slums (Angeles *et al.,* 2009; UN-Habitat, 2016). Dhaka division has the largest population of all of the divisions and contains 6,489 slums. Sylhet division contains 1,412 slums of which Sylhet City Corporation contains 670 slums. The distribution of population by locality shows that Sylhet City Corporation contains 50,129 slum dwellers (BBS, 2014).

According to Latif *et al.* (2016), the health condition in the poor communities in third world cities is alarming as thousands of children still die every day from preventable diseases related to the inadequate provision of water and sanitation (Bartlett, 2003). As elsewhere in the third world, slums and squatters in Bangladesh attracted not much attention from public health policymakers. The health impact originating from socioeconomic status has been extensively studied focusing on mortality and morbidity (Papa *et al.,* 2009). Studies on the effects of environmental factors on slum dwellers' health in the context of Bangladesh are scarce. Slums in Sylhet city have been taken as a case study and the living conditions of these slum dwellers are very poor. Besides there is no previous attempt to study such type of issue in this slum area. This investigation subscribes to the necessity of analyzing the socio-economic, health condition, and constraints of slum people which can help to formulate future development plans for the slum. In these circumstances, the study was undertaken to document the socio-economic condition of the slum people in Sylhet city as well as to know the livelihood status of slum people in Sylhet for achieving Sustainable Development Goals (SDGs) through establishing sustainable cities.

Materials and Methods

Study site

In this study, a stratified random sampling technique was followed to select the sample respondents. Twenty-seven wards were selected randomly from Sylhet City Corporation. Respondents from these 27 wards constituted the population for the study. From this population, 138 respondents from 9 wards were selected randomly as the sample for the study.

Methods and procedure of data collection

The data utilized in this study were obtained via personal interviews conducted by the researcher from September 2018 to March 2019. The researcher utilized the previously arranged interview schedule to collect data. Every conceivable effort was exerted to elucidate the objective of the study to the participants to obtain reliable and relevant data from them. The researchers conducted interviews with the participants at their respective residences. Prior to commencing the interview, the researcher made diligent efforts to create rapport with the respondent to ensure their comfort and willingness to provide accurate responses to the questions and statements outlined in the interview schedule. The questions were provided with explanations and clarifications if a respondent encountered trouble comprehending them.

Statistical analysis

The obtained data underwent analysis, coding, transfer from the interview schedule to a master sheet, summarization, categorization, and entry into a database utilizing Microsoft Excel 2019. The data were subjected to analysis using SPSS (Version 16.0), which served as the tool for conducting all statistical analyses.

Results and Discussion

The dominant table regarding the age of household heads was the age group 21-25 years and 16-20 years which were 19% and 17%, followed by the age group 36-40 years which was 14% and 26-30 years, 31-35 years and 46-50 years which was 9% respectively. The educational qualification having 54% of the respondents were fully illiterate, and a few numbers of respondents can sign only, 33% the primary level educated, 10% under secondary level educated and only 1% had both secondary level and higher secondary level of education. Parents of the study area were unwilling to send their children to school due to their poverty, although educational facilities were available here. The highest portion of respondents had small family sizes with members of 3-6 and the corresponding percentage was 58 the lowest in the family group of very large and the corresponding percentage was 4, while the rest of the respondents (30%) belonged to the medium family size with members of 7-10 and 8% belong to the large group of family having members of 11-14. The findings indicated that most of the respondent's family size was upto small to medium size in the study area. From these studies, it was explicit that most of the people in the slum area came from Sunamganj district. People are coming to cities far faster than the planning process can incorporate them. Hossain et al. (2010) examined Khulna and Rajshahi slums. They found that 39% of Rajshahi respondents are 31-40 years old and drop sharply after 40. While over 45% of respondents in Khulna city are under 30, 35% are between 21-30 years old, with a gradual reduction after 30 years old, eliminating those over 50. Uddin (2018) found 28% of respondents under 31–40 years old and 37% under 30 years old in the Chittagong slum area. In our study, it was observed that between 31 and 40 years old, the related percentage is 23%, and under 30 years old, the related percentage of the respondent's age is 45%, which is similar to Khulna city.

Table 1: Demographic information of the respondents in slum areas of Sylhet City Corporation

Age	Related Percentage	Education	Related Percentage	Family members	Related Percentage	District of origin	Related Percentage
16-20	17	Illiterate	54	Small (3-6)	58	Sunamganj	44
21-25	19	Primary	33	Medium (7-10)	30	Sylhet	20
26-30	9	Secondary	10	Large (11-14)	8	Brahmanbaria	10
31-35	9	Higher Secondary	1	Very large (15-18)	4	Netrokona	10
36-40	14	Graduate	2			Cumilla	4
41-45	6					Kishorgonj	4
46-50	9					Habiganj	3
>50	17					Mymensingh	3
						Noakhali	2

Income source and occupation: Sources of income and monthly income of the slum dwellers were categorized in the following Table 2. Migration plays a key role in individual and household adjustment strategies to changing conditions at rural origin and urban destination and in the community generally. According to the report it was seen that before migration, five categories of occupations were found in Sylhet city corporation slum area. In the study area agriculture based occupation of the slum dwellers were very prominent. Most of the people such as 55% had been living in this slum area for 11-20 years and 40% for 1-10 years. Only 5% of respondents lived here for above 20 years. Uddin (2018) found the maximum respondents income source belongs to the rickshaw puller group in Chittagong, and the related percentage was 19%, which is similar in the Sylhet region also.

Table 2: Income source and occupation of slum dwellers in Sylhet City Corporation

Sources of income	Related Percentage	Occupation before migration	Related Percentage	Period of living	Related Percentage
Rickshaw puller	19	Agriculture based	49	1-10 years	40
Hawker	3	Jobless	24	11-20 years	55
Day laborer	32	Small business	17	Above 20 years	5
Driver (Van, CNG)	9	Workers	6		
Service holder	4	Others	4		
Mason	14				
Maidservant	9				
Shopkeeper	4				
Others (Sweeper, Beggar)	6				

Respondents housing structure and sources of drinking water:

In the study area the semi-pucca housing structures of the slum dwellers were very prominent. From the study, it was found that four categories of housing were found in the Sylhet City Corporation slum area. Almost half or about 55% of respondents opined that they have one room allotted for their family members composed of 1–3 persons. Besides this 41%, 3%, and 1% also said that they have only one room allotted for their family members composed of 4-6 persons, 7-9 persons, and 13-15 persons respectively, because most of the houses in the slum area was rented with high prices. Water quality in Sylhet City is affected by environmental pollution from industrial effluent, garbage from the household, unplanned urbanization, and excessive use of groundwater, etc. Drinking water sources are also contaminated during frequent disasters such as floods, landslides, storms, and latrines overflow and contaminate water sources. From Table 3, it was noticed that drinking water sources can include deep tube-well, supply water, pond, public standpipe, and chara. Sources of drinking water from deep tubewells were 68% in Sylhet and 36% in Chittagong slum, according to Uddin (2018). According to Hossain et al. (2010), 72% of the homes in Khulna's slums are kutcha. According to Latif et al. (2016), the slums of Kalyanpur have about 78% kutcha homes. Uddin (2018) found 45% of kutcha housing structures in the Chittagong slum area. But in the slum area of Sylhet district, only 4% of Kutcha homes were observed.

Table 3: Respondents housing structure and sources of drinking water

Housing structure	Related Percentage	No. of people living in a room	Related Percentage	Sources of drinking water	Related Percentage
Semi pucca	84	1-3	55	Deep tubewell	68
Jhupri/ Mud	7	4-6	41	Supply water	23
Kacha	4	7-9	3	Pond	4
Pucca	5	≥10	1	Public stand pipe	3
				Others	2

Different major characteristics in slum areas:

Bangladesh has been generally successful in promoting using sanitary latrines and reducing open defecation among the general population to a mere one percent. In Table 4, it was found that the majority of respondents use sanitary latrines in slum areas, and the corresponding percentage was 80 but few of them were hygienic, whereas 16% used pit latrines. Whereas 49% of respondents used sanitary latrines in the Chittagong slum area (Uddin, 2018). In Table 4, the estimation shows that 57% of families share one toilet by 3-11 persons. In addition, 22% of families were found who told that they share one toilet 12-19 persons. Slum dwellers produce a substantial quantity of solid waste that must be collected regularly and disposed of properly to maintain healthy living. According to environmental protection agencies and departments, this malpractice is termed illegal dumping. The following table shows that 46% of urban slum people of Sylhet City used ground (such as streets, open fields, neighborhood houses, courtyards, etc.), 32% used dustbins and 22% of respondents said that they used water bodies like drain, canal, pond, river for waste dumping. In Chittagong, about 39% of respondents disposed of their waste on the ground (Uddin, 2018).

Table 4: Different major characteristics in slum area

Nature of toilets	Related Percentage	No. of people sharing a toilet	Related Percentage	Places of waste dumping	Related Percentage
Sanitary latrine	80	3-11	57	Ground (Street)	46
Pit latrine	16	12-19	22	Dustbin	32
Hanging/ Open space	4	20-27	17	Water bodies (By drainage)	22
		≥28	4		

Fuel source, reasons for diseases, and modern facilities:

In Table 5, it is found that 83% of the shanty people had access to electricity while 17% of respondents used other facilities such as kupi, candle, haricane/ kerosene lamps, and solar power. According to the report, 71% of the slum people in the study area had access to gas facilities. Besides this 28% used biomasswhich is an organic matter generally used as a fuel, especially in a power station for the generation of electricity, and only 1% used cow-dung (dry dung fuel is animal feces/excreta that have been dried to be used as a fuel source). Mahbub et al. (2005) reported that about 58% of the Dhaka slums had access to gas, while it was unavailable in Khulna, Rajshahi, and Barisal. From the following table, it is found that about 46% of people said that a damp environment was the main reason for affecting diseases whereas also 43, 30, 26, and 17% opined that lack of balanced nutrition, water pollution, adulterated food, and air pollution were the main reason. According to the Table 4, it is shown that amongst the related modern facilities, respondents use television 39%, mobile 87%, fan 81%, and refrigerators 6% for their refreshments and daily needs. According to Mahbub et al. (2005), only roughly 58% of the Dhaka slums had access to gas, while it was unavailable in Khulna, Rajshahi, and Barisal. Uddin (2018) observed 78% electricity in the slum areas of Chittagong, and we observed 83% electricity facilities in Sylhet (Table 5), which is about similar.

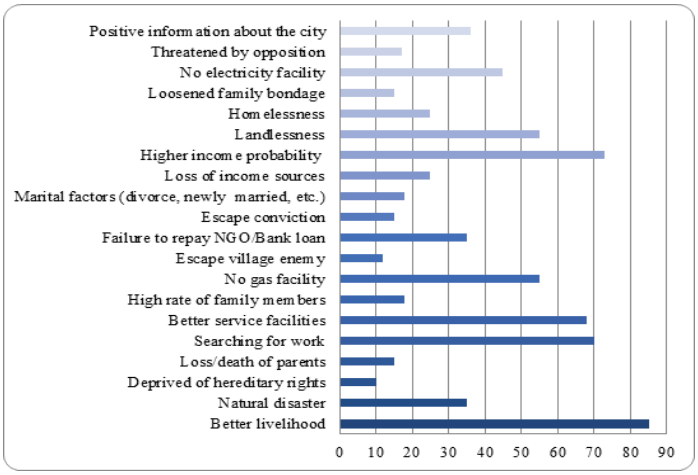
Table 5: Liht source, fuel source, reasons for diseases and modern facilities

Power or light source	Related Percentage	Sources of fuel for cooking	Related Percentage	Possible reasons for diseases	Related Percentage	Modern facilities availability	Related Percentage
Electricity	83	Gas	71	Damp environment	46	TV	39
Others	17	Biomass	28	Lack of balanced nutrition	43	Refrigerator	6
		Cowdung	1	Water pollution	30	Fan	81
				Air pollution	17	Mobile	87
				Others	23		

Reasons for migration of slum dwellers:

The agricultural industry, which employs most people in rural areas, is extremely vulnerable to fluctuations in the climate. Additionally, many rural households have become landless due to a lack of land, low or declining soil fertility, tiny land holdings, high farm debts, and a lack of access to affordable credit. Driving preliminary pre-test survey, it is shown that the main reason for migration of slum dwellers in Sylhet City was better livelihood (85%) while the other major reasons were higher income probability (73%), searching for work (70%), better service facilities (68%), landlessness (55%), no gas facilities (55%), positive information about the city (36%) and failure to repay NGO/Bank loan (35%).

Figure 1. Reasons for migration of slum dwellers



Sources of health facilities:

According to the data presented in Table 6, a significant proportion of the participants residing in the study area relied on pharmacy/quack services for their healthcare needs, accounting for 60% of the respondents. This preference can be attributed to their lower socioeconomic status and limited access to formal medical facilities. However, a notable percentage of respondents, specifically 16% and 12%, sought medical assistance from Government medical hospitals and Community clinics, respectively. Similarly, sources of health facilities from pharmacies were 61% in Chittagong slum (Uddin, 2018).

Table 6: Sources of health facilities for the slum people (n=138)

Health facility sources	Frequency	%
Pharmacy/Quack	82	60
Public health care facility	22	16
Local health center	16	12
Both the Government medical hospital and Kabiraj	6	4
Both Pharmacy/Quack and Kabiraj	4	3
Kabiraj	2	1
Both Government medical hospitals and Pharmacy/Quack	2	1
Both Government medical hospitals and Community clinics	2	1
Both the Community Clinic and Kabiraj	2	1

Diseases commonly suffered by the slum people:

From Table 7, it is clear that most of the people (86%) were suffering from fever followed by 51, 43, 30 and 14% suffering from cough, diarrhea, skin diseases, and jaundice respectively. Asthma, diabetes, kidney disease, liver disease, and similar illnesses were not nearly as common. In Dhaka's Kalyanpur slum, 26% of residents had a fever. 16.4, 15.5, and 6.4% had jaundice, skin illnesses, and diarrhoea (Latif et al., 2016). Over 20% of Khulna slum residents reported fever, followed by stomach issues (16%), diarrhoea (8%), elevated blood pressure (6%), and headache (6%). Certain ailments, including asthma, heart issues, typhoid, and skin conditions, were less common among slum inhabitants. In Rajshahi slums, 32% reported illness, 20% high blood pressure, 27% fever, 7% headache, 7% gastrointestinal issues, 6% skin issues, and 6% heart issues (Hossain et al. 2010).

Table 7: Diseases commonly suffered by the slum people (n=138)

Diseases suffered by the slum people	Generally suffered		Not suffered	
	Frequency	%	Frequency	%
Different types of fever	118	86	20	14
Cough	70	51	68	49
Diarrhea	60	43	78	57
Skin diseases	42	30	96	70
Headache	28	20	110	80
Others	26	19	112	81
Jaundice	20	14	118	86
Dental problem	18	13	120	87
Back pain	14	10	124	90
Asthma	14	10	124	90
Diabetic	10	7	128	93
Kidney problem	2	1	136	99
Liver problem	2	1	136	99

Types of training needed:

From table 8 it is acquainted that 20% of respondents need training in sewing. Indeed 10, 9, 7, 6, and 4% need training about tailoring, driving, home crafting, health awareness, and agricultural-based small business and vocational training. Meanwhile, 14% said that they had no idea about training.

Table 8: Types of training needed by the Respondents (n=138)

Types of training needed	Frequency	%	Rank
Sewing	28	20	1
No idea about training	20	14	2
Tailoring	14	10	3
Driving	12	9	4
Home crafting	10	7	5
Training about health awareness	8	6	6
Agricultural based small business	6	4	7
Vocational training	6	4	7
Farming	4	3	8
Vegetable gardening	4	3	8
Cattle and livestock farming	4	3	8
Apiculture (Culture of honey bees)	2	1	9
Auto-rickshaw training	2	1	9
Gardening	2	1	9
Electrical operating	2	1	9
Skill development driving	2	1	9
Special training for women	2	1	9
Regarding food quality	2	1	9

Types of support needed:

From Table 9, it is observed that 45% of respondents need financial support which took place in rank 1. Others such as employment facilities 19%, micro-credit 13%, health care support 9%, investment for farming 6%, and drinking water supply 3% were the most valuable support which should be provided. Moreover, 1% suggested that they need residential facilities, fertilizer, land, stalls, proper places, waste disposal and drainage facilities, educational facilities, and micro-credit for SMEs (Small and Medium Enterprise).

Table 9: Types of support needed by the Respondents (n=138)

Types of support needed	Frequency	%	Rank
Financial support	62	45	1
Employment facility	26	19	2
Health care support	12	9	3
Micro-credit	18	13	4
Investment for farming	8	6	5
Drinking water supply	4	3	6
Residential facility	2	1	7
Fertilizer	2	1	7
Land	2	1	7
Stall	2	1	7
Proper place	2	1	7
Waste disposal and drainage facility	2	1	7
Education facility	2	1	7
Micro-credit for SME	2	1	7

Knowledge regarding good habits:

According to Table 10, it was shown that 97% knew that smoking was harmful to health followed by 3% didn't know, 65% knew that salt intake should be minimized followed by 35% didn't know, 67% didn't know about adequate oil should be used while cooking vegetables for getting vitamins followed by 33% know about that, 57% know about anthelmintic medication should be taken by family members in the same six-month intervals while 43% didn't know, 68% didn't know about doses of antibiotic medicine should be complete while 32% know about that, 94% know about hands should be washed with soap before eating while only 6% didn't know, 88% know about eggs, fruits, and vegetables should be eaten regularly while 12% didn't know and 94% know about adequate pure water should be drunk regularly while only 6% didn't know about that.

Table 10: Respondents' knowledge regarding good habits (n=138)

Statements of good habits	Know		Don't Know	
	Frequency	%	Frequency	%
Smoking is harmful to health	134	97	4	3
Salt intake should be minimized	90	65	48	35
Adequate oil should be used while cooking vegetables to get vitamins	46	33	92	67
Anthelmintic medication should be taken by family members in the same six-month interval	78	57	60	43
Doses of antibiotic medicine should be complete	44	32	94	68
Hands should be washed with soap before eating	130	94	8	6
Eggs, fruits, and vegetables should be eaten regularly	122	88	16	12
Adequate pure water should be drunk regularly	130	94	8	6

Field research by Mahbub et al. (2005), Hossain et al. (2010), and Latif et al. (2016) found that while there are some variances in education and monthly income, communities are similar in terms of socioeconomic level, housing, utility services, political status, health, and housing quality. Socioeconomic variables like low literacy, inadequate housing, and lower educational attainment may have an impact on the health of slum dwellers. According to Gund and Deshmukh et al. (2023), slum restoration is necessary to achieve the UN SDG goals for sufficient housing, reducing poverty, improving healthcare and education, and creating sustainable cities and communities. Additionally, they recommended that redevelopment plans should include inexpensive, expandable housing and be complete, integrated, scalable, and reproducible. Sustainable development is made possible through solar energy, water management, and rainwater collection (Aziz & Shawket, 2011).

Conclusion

The study was conducted to document the slum problems such as education, housing problems, occupation, poor sanitation conditions, lack of health services, diseases, lack of basic knowledge and training, etc. of slum dwellers of Sylhet city slum area to understand their livelihood status. It is indicated that slum dwellers of Sylhet city were deprived of basic needs which were considered the bottleneck of the sustainable city. Therefore, the findings suggest a holistic approach to address the multidimensional sustainability issues that affect the livelihoods of slum dwellers within the framework of the purpose-driven development policy of the country for achieving Sustainable development Goals (SDGs).

References

Angeles G, Lance P, Barden-O'Fallon J, Islam N, Mahbub AQM, Nazem NI 2009: The 2005 census and mapping of slums in Bangladesh: Design, select results and application. International Journal of Health Geographics. 8(32): 8-32.

Aziz TA, Shawket IM 2011: New strategy of upgrading slum areas in developing countries using vernacular trends to achieve a sustainable housing development. *Energy Procedia*. 6: 228-235. https://doi.org/10.1016/j.egypro.2011.05.026

Bartlett S 2003: Water, Sanitation and Urban Children: The need to go beyond improved provision. *Environment and Urbanization.* 15(2): 57-70.

Bayes A 2018: Slums and poverty. The Financial Express; available at: https://www.thefinancialexpress.com.bd/views/slums-and-poverty-1516640099.

BBS 2014: Preliminary Report on Census of Slum Areas and Floating Population. Bangladesh Bureau of Statistics.

BBS 2017: Preliminary report on household income and expenditure survey 2016. Dhaka, Bangladesh: Bangladesh Bureau of Statistics (BBS). ⟨http://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/b343a8b4_956b_45ca_872f_4cf9b2f1a6e0/HIES%20Preliminary%20Report%202016.pdf⟩ (Accessed 01 November 2017).

Elrayies GM 2016: Rethinking slums: an approach for slums development towards sustainability. *Journal of Sustainable Development.* 9(6):225-244. https://doi.org/10.5539/jsd.v9n6p225

Gund O, Deshmukh, M 2023: Evaluation of existing slum dwellings in urban settings to meet the UN SDG goals. *6th International Conference of Contemporary Affairs in Architecture and Urbanism*. https://doi.org/10.38027/iccaua2023en0228

Hossain MAM, Moniruzzaman, M.A. Islam 2010: Urban Environmental Health in Bangladesh Slum: A Comparative Study of Two Metropolitan Cities. J. Sci. Foundation. 8(1&2): 67-76.

Kalyanasundaram PI, Kosalram BK 2020: Sustainable development of Slum Living. In: Leal Filho W, Azul AM, Brandli L, Lange Salvia A, Özuyar PG, Wall T. (eds) No Poverty. Encyclopedia of the UN Sustainable Development Goals. Springer, Cham. https://doi.org/10.1007/978-3-319-69625-6_49-1

Latif MB, Irin A, Ferdaus J 2016: Socio-economic and health status of slum dwellers of the Kalyanpur slum in Dhaka city. *Bangladesh J. Sci. Res.* 29(1): 73-83.

Mahbub AQM, Angeles G, Lance P, Nazim NI 2005: Centre for Urban Studies: Slum of Urban Bangladesh: Mapping and Census.

Papa EN, Kontodimopoulos A, Angelos AA, Papadopoulos, Niakas D 2009: Assessing the socioeconomic and demographic impact on health-related quality of life: Evidence from Greece. *International Journal of Public Health.* 54.

Uddin N. 2018.Assessing urban sustainability of slum settlements in Bangladesh: Evidence from Chittagong city. *Journal of Urban Management* **7**: 32–42.

UNDP-World Bank 2000: Cities Alliance for Cities Without Slum: Action Plan for moving slum upgrading to scale. UNDP-World Bank Water and Sanitation Program - South Asia, 55 Lodi Estate, New Delhi 110 001, India.

UNEP 2019: Make cities and human settlements inclusive, safe, resilient and sustainable. Issue brief SDG 11. Cities Unit, UN Environment.

UN-Habitat 2016: Development: Emerging futures, world cities report 2016. Nairobi: UN-Habitat.