

# Towards Awareness of Sustainable Life-Styles : A Comparative Survey Between Urban-Rural Secondary Students

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## Abstract

Sustainable lifestyles are some distinctive patterns of action and consumption, adopted by people to ensure their basic needs, provide a better quality of life, minimize the usage of natural resources and emission of waste and pollutants over the natural life cycles, and those that do not threaten the needs of future generations. Education can impart the knowledge, skills and behavioural changes that are necessary for mitigation or reducing greenhouse gas emissions through sustainable consumption patterns in lifestyles, livelihoods, economies and social structures that are currently based on excessive greenhouse gas production. The education sector offers a currently untapped opportunity to combat climate change and achieve sustainable development. Education can enable individuals to play a critical role in re-defining their lifestyles to address the current sustainability issues that humanity is facing. Additionally, schools play a role in mitigation in terms of becoming carbon neutral and energy efficient and reducing the students' ecological footprint. So students with their innovative and creative attitude, can change their own as well as the world's lifestyle to achieve sustainable development.

This paper addresses the awareness and attitude of secondary students of urban and rural areas towards sustainable lifestyle including water pollution, food consumption, fossil fuels and electricity consumption.

**Keywords:** Sustainable development, Sustainable lifestyle, water pollution, food consumption, fossil fuels, electricity consumption.

## 1. Introduction

The term ‘**Sustainable Development**’ is described in the Brundtland report in 1987 as ‘development which meets the needs of the present without compromising the ability of future generations to meet their own needs’.<sup>1</sup> In other words, as a nation we should work together and ensure that everyone around the world is able to live a decent quality of life, yet with care and consideration so that future generations will also have the opportunity to live decently. The United Nations Secretary General's High-Level Panel on Global Sustainability recently wrote that “sustainable development is not a destination, but a dynamic process of adaptation, learning and action. It is about recognizing, understanding and acting on interconnections—above all, those among the economy, society and the natural environment.” Similarly, addressing the climate challenge requires individuals and institutions to be able to assess and understand climate change, design and implement adequate policies, and, most important of all, take action toward low-carbon, climate-resilient, and sustainable growth. Therefore, climate change education is an integral part of learning for sustainable development.<sup>2</sup>

To achieve sustainable development, individuals need to adopt sustainable lifestyles. Every day, millions of choices are made by individuals, businesses, and governments—all of which influence society and impact the planet.

Sustainable lifestyle is a lifestyle that attempts to reduce an individual's or society's use of the Earth's natural resources and personal resources. Practitioners of sustainable living often attempt to reduce their carbon footprint by altering methods of transportation, energy consumption, and diet. Proponents of sustainable living aim to conduct their lives in ways that are consistent with sustainability, in natural balance and respectful of humanity's symbiotic relationship with the Earth's natural ecology and cycles. Sustainable living is fundamentally the application of sustainability to lifestyle choice and decisions.<sup>3,4</sup> One conception of sustainable living expresses what it means in triple-bottom-line terms as meeting present ecological, societal, and economical needs without compromising these factors for future generations.

Chapter 4 of Agenda 21 addresses “changing consumption patterns,” which encourages the development of national policies and strategies to introduce change in unsustainable consumption patterns (UNCED 1992). Unsustainable collective choices have led to major environmental crises, from climate change to resource scarcity, while failing to improve people's well-being. However, sustainable lifestyles, enabled by both efficient infrastructure and individual actions, play a key role in minimizing the use of natural resources, emissions, wastes, and pollution while supporting equitable socioeconomic development and progress for all.<sup>5</sup> This requires rethinking ways of living, purchasing, and consuming, altering the organization of daily life, of socialization, exchange, education, and the building of identities.

Equally important is understanding the inter-linkages between the three pillars of sustainable development—economic growth, social development, and environmental protection—and the consequences of choices.

The lack of agreement and definition has stymied efforts to move education for sustainable development (ESD) forward. It is curious to note that while we have difficulty envisioning a sustainable world, we have no difficulty identifying what is unsustainable in our societies.<sup>6,7</sup> We can rapidly create a list of problems - inefficient use of energy, lack of water conservation, increased pollution, abuses of human rights, overuse of personal transportation, consumerism, etc. But we should not chide ourselves because we lack a clear definition of sustainability. Indeed, many truly great concepts of the human world - among them democracy and justice - are hard to define and have multiple expressions in cultures around the world. Education promises to make the world more livable for this and future generations. Of course, a few will abuse or distort education and turn it into indoctrination. This would be antithetical to the nature of education, which, in fact, calls for giving people knowledge and skills for lifelong learning to help them find new solutions to their environmental, economic and social issues.

## 2. Objectives

1. To find out the attitude and awareness levels of secondary students of Kolkata (urban) and North 24 Parganas (rural) towards water consumption and water pollution, food and energy consumption
2. To find out whether these students are familiar with the concept of sustainable lifestyles

With these objectives, this survey was conducted on the urban and rural male and female students, whose family income ranged from Rs 15000 – 20000/= for maintaining parity.

## 3. Methodology of the Study

### I. Research Instruments

The data was collected through a well structured self-made questionnaire having 35 questions on sustainable lifestyle. The questionnaire had three (3) parts. Part-A consists of fourteen (14) items on water pollution and part-B consists of nine (9) items on food consumption and part-C consists of twelve (12) items on electricity and fossil fuel consumption. Part –A, B and C questions had to be rated according to their favorability to the sustainable lifestyle. The highest favourable option was rated with maximum marks (4) and lowest and least favourable answers rated with minimum marks (1). From the total score obtained, descriptive statistics was found out and t-test was done to understand the significance of the differences in mean. All statistical functions have been done with the help of Microsoft Excel-data analysis package.

### II. Data Collection

Survey data were collected from February to April 2015. The survey were conducted with secondary students of class IX and X in two ways that, some survey conducted in their schools and some from random selection from the urban and rural areas i.e. Kolkata and North 24 Parganas with male and female students.

### III. Sample Selection

In case of sample selection, two different techniques were used-Convenient sampling technique and Simple random sampling. Convenient sampling technique was used for selecting schools and students (according to availability). One hundred samples have been chosen through simple random sampling. Total 100 secondary students of class IX and X, in which 50 students are from Kolkata and 50 students are from North 24 Parganas. From these 100 students, 54 male and 46 female students are taken into account. The sample Split-up is given below –

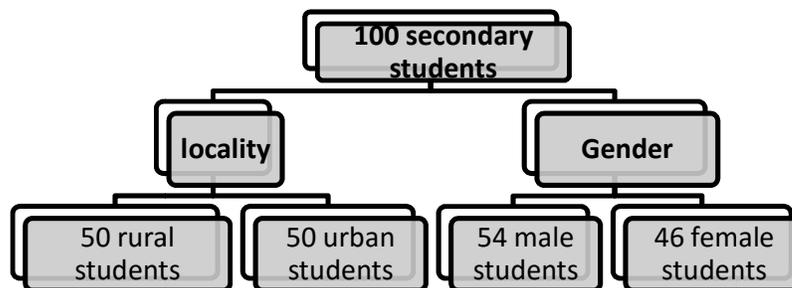


Fig-1: Sample split up

### 4. Results: Data Analysis

To understand the significance of differences in means of opinion on attitude of students towards sustainable lifestyle between rural and urban students and male and female students, statistical 't'-test has been performed.

#### Hypothesis -1

There is no significant difference in means of opinion on attitude of students towards sustainable lifestyle between rural and urban people.

LOCALITY	N	MEAN	MEAN DIFFERENCE	STANDARD ERROR MEAN	STANDARD DEVIATION (Sd)
RURAL	50	114.76	11.84	1.44	10.25
URBAN	50	102.92		1.06	7.41

Table-1A: Statistical data of rural and urban students

CATEGORY	LOCALITY	OBSERVATION	VARIANCE	df	t-STAT	P(T<=t) TWO TAILED	t-CRITICAL TWO TAILED
Assuming Equal Variance	RURAL	50	105.24	98	6.614	9.98	1.984
	URBAN		54.97				
Assuming Unequal Variance	RURAL	50	105.24	97			
	URBAN		54.97				

**Table-1B:** t-test of two samples assuming equal and unequal variance (between rural and urban students).

The hypothesis has been set that there is no significant difference in means of opinion on attitude of students towards sustainable lifestyle between rural and urban students, ( $H=0$ ). A two tailed t-test has been performed. The t-value, 6.614 is greater than the t-critical value, 1.984. Moreover the P-value, 9.98 is also greater than the alpha value (0.05), so the null hypothesis is accepted. This hypothesis is significant at alpha value (0.05). Thus it can be concluded that because the t-value is higher than the t-critical value the null hypothesis is failed to be rejected at the alpha level 0.05. It can be stated with 95% certainty that there exists a significant difference in means of the opinion on attitude of students towards sustainable life-styles, between rural and urban students.

### Hypothesis -2

There is no significant difference in means of opinion on attitude of students towards sustainable lifestyle between male and female students.

GENDER	N	MEAN	MEAN DIFFERENCE	STANDARD ERROR MEAN	STANDARD DEVIATION (Sd)
MALE	54	109.48	1.40	1.30	9.57
FEMALE	46	108.08		1.76	11.96

**Table-2A:** Statistical data of male and female students

CATEGORY	GENDER	OBSERVATION	VARIANCE	df	t-STAT	P(T<=t) TWO TAILED	t-CRITICAL TWO TAILED
Assuming Equal Variance	MALE	54	91.76	98	0.647	0.526	1.984
	FEMALE		143.19				
Assuming Unequal Variance	MALE	46	91.76	86			
	FEMALE		143.19				

**Table-2B:** t-test of two samples assuming equal and unequal variance (between male and female students).

The hypothesis has been set that there is no significant difference in means of opinion on attitude of students towards sustainable lifestyle between male and female students, ( $H=0$ ). A two tailed t-test has been performed. The t-value, 0.647 is smaller than the t-critical value, 1.984. Moreover the P-value, 0.526 is greater than the alpha value (0.05), thus rejecting the null hypothesis. This hypothesis is not significant at alpha value (0.05). It can be stated with 95% certainty that there does not exist any significant difference in means of the opinion on attitude of male and female students towards sustainable lifestyles.

For the present project report, the collected data of different schools (urban and rural) from Kolkata and North 24 Parganas have been tabulated regarding sustainable lifestyles. From the statistical results it has been observed that responses for the different questions for rural and urban students are different, indicating that the concerns about sustainable lifestyle in rural area schools are slightly more than those of urban schools. It is amazingly revealing, indicating that both male and female students have equal concern about their lifestyles.

Most of the students know about the present condition of their daily use of drinking water. They were concerned about drinking water and maximum students preferred pure and purified water for drinking purpose. In urban areas people waste water in greater amounts through misuse or through carelessness, than rural people so that urban area students were faced with the problem of scarcity and wastage of water.

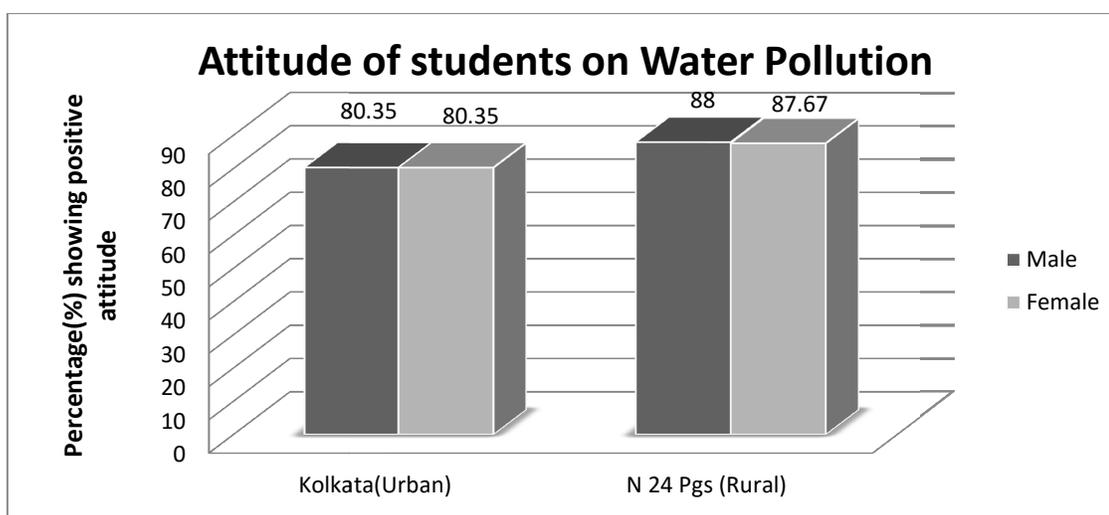
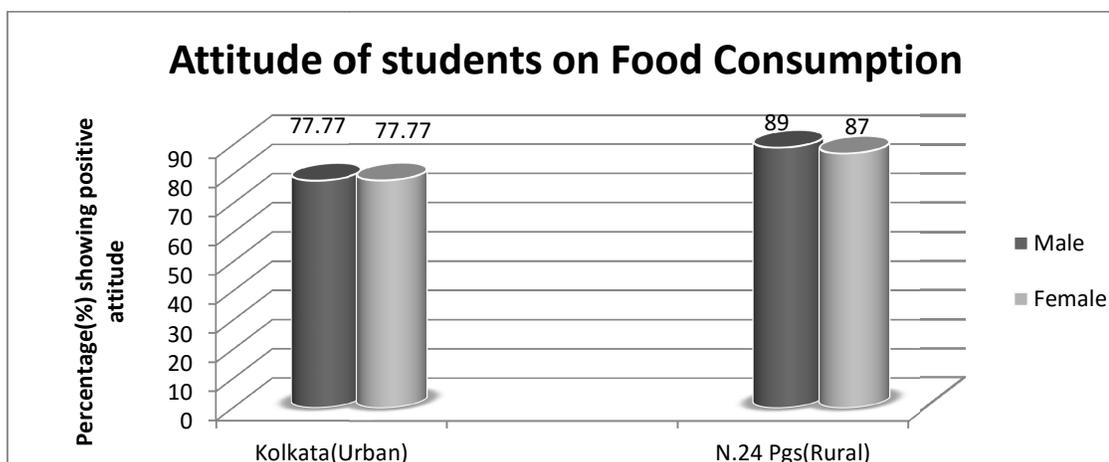


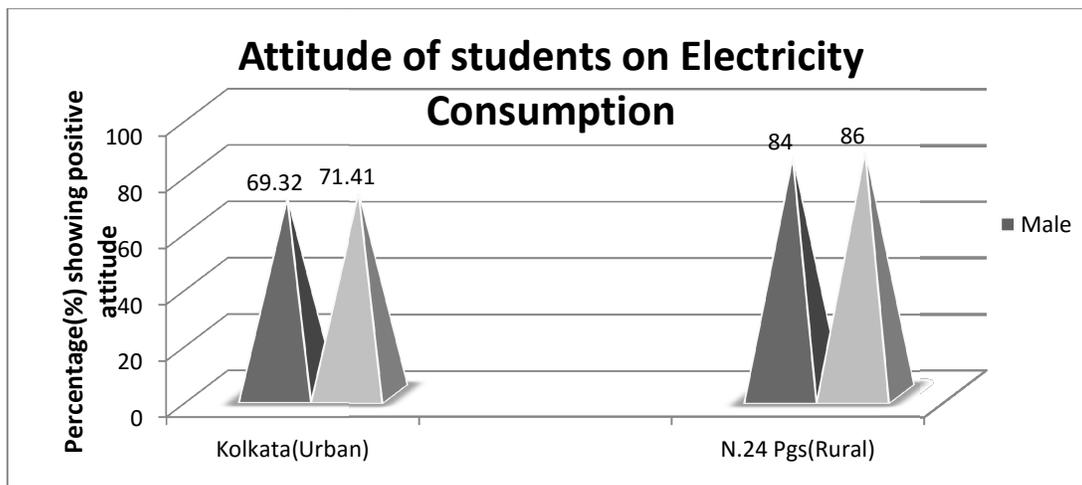
Fig. 2 : Attitude of students on water pollution

Maximum number of students preferred to eat fresh food materials from local markets. But choice of food materials between urban and rural students was different. Urban students preferred fast street food whereas rural students preferred home - made food.



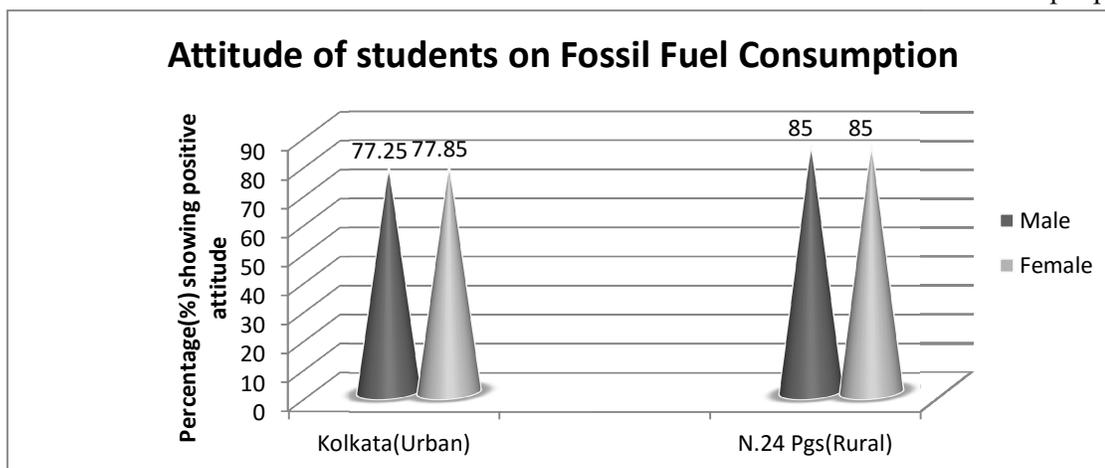
**Fig.3: Attitude of students on food consumption**

From the obtained survey data it is clear that all students have electricity in their houses but urban area houses consumed more electricity than rural areas houses, though an amazing fact was found that all students from both areas preferred energy efficient electric appliances like LED bulbs, CFL lights etc. So they were concerned about electricity consumption through lowering the electricity usage by using those appliances.



**Fig. 4 : Attitude of students on electricity consumption**

Maximum number of students had at least one vehicle in their house but rural students mainly had vehicles that didn't depend on fossil fuel but urban students had fossil fuel dependent vehicles mostly. On the other hand rural students preferred mostly walking and cycling for their travelling purpose whereas urban students liked to travel mostly by fossil fuel dependent vehicles. So from the collected data it is clear that urban people used more amount of fossil fuel than rural people, which means urban area people exploit more amounts of fossil fuel than rural area people.



**Fig.5: Attitude of students on fossil fuel consumption**

## 5. Conclusion

It is found from the data that male and female students from both urban and rural areas are concerned about water pollution, food consumption, fossil fuel and electricity consumption. So these facts established that most of the students have basic knowledge of sustainable lifestyles as well as the means to sustainable development. They have knowledge about the present water situation of their locality and they also know how to overcome the problems of water pollution. Maximum students know the food consumption pattern, electricity and fossil fuel usage of their houses and they also know how to get rid of the problems of wastage of food, electricity and fossil fuels. Therefore most of the students have a more or less positive attitude towards sustainable lifestyle as well as sustainable development. But there is a slight difference between urban and rural students' attitude. It can be said from the analyzed statistical data that rural students are more positive and eco-friendly than urban students. So it can be concluded that rural students are comparatively more aware in their lifestyle practices in order to achieve sustainability than urban students. But there is no significant difference between male and female students' attitudes.

Sustainable lifestyle practice development is essential to raise global awareness about what can and should be done through education to ensure sustainable development. After learning about sustainable lifestyle, maximum students get motivated to choose the proper way to quality life. In this connection Environmental Education or Sustainability Education plays a significant role as do the educators of these disciplines.<sup>8</sup> To promote ESD, the United Nations Decade of Education for Sustainable Development, 2005-2014, was adopted by UNESCO which pursues a global vision '*of a world where everyone has the opportunity to benefit from quality education and learn the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation.*'

## 6. Limitations

As previously mentioned, this survey was conducted only with a hundred students of class IX and X from Kolkata and North 24 Parganas. We admit that these are small areas and small sample size, and it is difficult to draw a general conclusion from such a limited data set. However such sample surveys highlight the importance of awareness programs regarding Sustainable lifestyles of the students as well as their families and set the foundation for further extensive research in this field.

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