

## Sustainable Living in Schools: A Study of Vajra Academy, Lalitpur

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### Abstract

Green living focuses on the use of renewable products with less emphasis on the natural resources. The improvement in teaching methodology, qualified teachers and child centered curriculum are required for green schools. Vajra Academy was purposively chosen for this study as it is the first green and eco-friendly school of Nepal. This study determines different components of green living in Vajra Academy School of Nepal, connecting the knowledge, attitude and practice level of students. The study was done on 32 students from Grade VI and VII. A structured survey questionnaire was asked with students and open-ended questions were asked with school administration. The six different indicators of green living namely water, transport, food, energy, waste, and curriculum have been discussed in this paper. It was found that there is no gender difference in gaining knowledge about the green living components. However, the study reveals that there is difference in attitude of treating from the gender perspective. The practice level is weak compared to the knowledge and attitude of the students. The knowledge of green living among students of Vajra Academy was extraordinary; the attitude was good whereas, the practice level was average.



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### Introduction

The term 'sustainable development' came into light after its introduction in 1987 Brundtland Commission's report called Our Common Future.<sup>1</sup> The report defined sustainable development as, "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs".<sup>2</sup> The sustainable development then was linked with three factors namely economic, environment and equity.

Sustainability is about how an individual act and behave.<sup>3</sup> In this regard, green living is important which focuses on the use of renewable products with less emphasis on the natural resources. The role of sustainable design and sustainable development are very important for sustainable living.<sup>4</sup> Sustainable design leads to the development of appropriate technology and comply with the principles of social, economic, and ecological sustainability.<sup>5</sup> Adopting

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such technique leads to sustainable development. Carbon footprint helps to measure the use of carbon and considered as an indicator of unsustainable energy use. In case of sustainable living, it is argued that an individual can reduce their carbon footprint by using alternate modes of transportation, energy consumption, and diet.<sup>7</sup>

The National Framework for Sustainable Schools (United Kingdom) has mentioned three interlocking parts for green schools under section 1:2.<sup>8</sup> A sustainable school focuses on the energy and water consumption, the amount of waste generated, the served food and the difficulties faced by people living in its community and in other parts of the world.<sup>9</sup>

A sustainable school gets ideas from a range of national priorities covering the sustainable development aspect.<sup>10</sup> Sustainable schools are the places where students can learn about sustainable living through teaching as well as day to day practices.<sup>11</sup> Apart from the theoretical information, students get an opportunity to be close with the nature. Students can also demonstrate good practices to others. So it's important to know, how they act and react to the environment. The improvement in teaching method and curriculum and qualified teachers are necessary for green schools.<sup>12</sup> The students of green school can make difference in environment protection and help their surroundings for protecting the environment.<sup>13</sup>

For green schools, it is necessary to have products with least environmental impacts during manufacture and shipping along with proper reuse, recycling or disposal.<sup>14</sup> The urbanization has caused rapid increase in waste generation.<sup>16</sup> Being a complex task, it is responsible of every individuals to work for the proper management of the solid waste.<sup>16</sup> Schools can play major role in disseminating knowledge and awareness about the consequences of environmental problems. Schools are the learning centers which help to mold the behaviours of students.<sup>18</sup> The learning space also acts as the major component motivating the students for better study and progress.<sup>19</sup> Green school is about how the school creates student friendly teaching learning environment. This will also be helpful for other schools and students to adopt environmental friendly activities. Thus, this study was done to know

the green practices adopted by school and the level of similar practice among the students.

### Research Questions

Below were the research questions for this study.

- What is the condition of knowledge, attitude and practice level of the students towards sustainable living?
- How is the school being benefitted from the sustainable living?

### Methodology

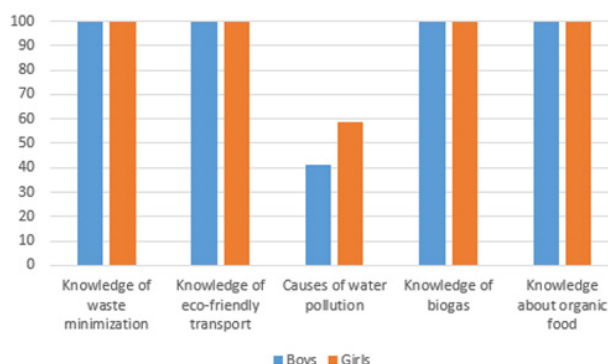
The geographical location of this research was near Vajra Bahari temple located 7.5 km from Chapagaun dobato, Lalitpur district of Nepal. A school named Vajra Academy was purposively chosen for this study as it is the first green and eco-friendly school of Nepal established in 2006 A.D. It is a day cum residential school, owned and administered by Vajra Foundation Nepal with support from Vajra Foundation Holland. As sample size of minimum 30 at 5% confidence level is sufficient for a research,<sup>20</sup> a sample of 32 students were surveyed from grade VI and VII of Vajra Academy. The students studying enrolled in particular grades were selected based on their interest to participate and as per the permission from the school. Interviews were also taken with school administration and working staffs. A structured survey questionnaire was prepared for students and open-ended questions were asked with school administration. The survey questionnaires for students were based on the standard questionnaire prepared by Green Schools Ireland<sup>21</sup> and awareness, attitude and practice level of school Students was analyzed by considering the questionnaires prepared by Raghavan.<sup>22</sup>

### Result and Discussion

Around 44% boys and 19% girls failed to give correct answers to the question related to water pollution. A question was asked with the students as why their school is different from other school. One of the students of Grade VII mentioned as, "Our school is different from other school because there is bio-gas for cooking food, solar stem kitchen plant (SSKP) for producing steam. It helped to cook the boiled food. There is subject called Green Study in which we students are taught about the reduce, reuse, recycle from plastics, paper, straw etc. There is also sundial and herbal garden in our school. We

have also organic farm and animals like rabbit, hen, buffalo, cow etc. The dustbin are placed in different places to throw waste. Red dustbins are used for

plastics related materials and green dustbins for paper wastes.”

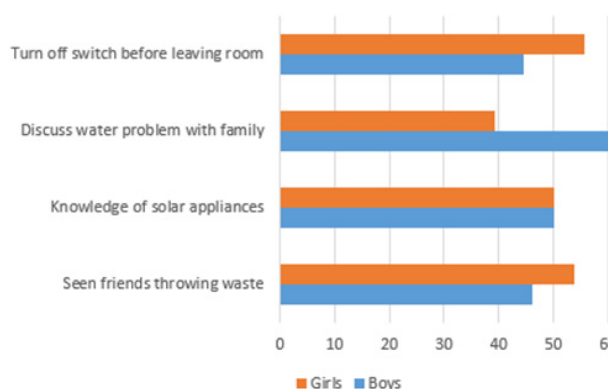


**Fig. 1: Knowledge of green living (%)**

The attitude level was checked with the help of five Likert type question for each indicator of sustainable living. The highest level was obtained by all 32 students for the questions related to water, transport, energy and food. The difference was noted only in the question related to waste.

done by McAllister<sup>23</sup> found that people are more likely involved in recycling activities when they observe others in their community. As school is strict with waste minimization, it has turned into habit in most of the students as well. If the data is breakdown on the basis of gender, it is found that 56% of girls say they strongly agree that there is role of an individual in minimizing wastes. Whereas 25% boys disagree with this statement.

It was found that 50% strongly agree that, there is role of an individual in minimizing wastes. A study



**Fig. 2: Practice level of green living (%)**

Around 75% boys and 88% girls claimed that they had seen their friends throwing wastes haphazardly. The higher percentage of girls claimed that they have major role in waste minimization. A study conducted among Turkish students from Grade VI to X found that the females were more aware about the individual responsibilities and have more positive attitudes towards environment.<sup>24</sup> This could be another scope of study as there are limited study on

the status of women in solid waste management.<sup>25</sup> It is seen that, though the school has placed dustbins in the classroom and outside in the playground, the students haven't used it properly. On average 85% boys practice these behaviours but 3% (88%) more girls practice such green behaviour. There is no significant difference though compared to each others. However, the overall practice level is low.

The students were found aware about the green vehicles, organic food etc. The vegetables grown in farm bears 50% of the cost, school administration said. The commonly grown vegetables in the farm are cauliflower, pumpkin, spinach, tomato etc. Wheat and rice are also grown in the farmland.

The water is collected in two different tanks of each 8,000 litres capacity. On average, 5,000 litres of water is consumed which gives 50 per litres per individuals only. In this sense, the water consumption is within the UN standard.<sup>26</sup> The water is also collected by rainwater harvesting.

There is even a solar stem kitchen plant (SSKP) in the school. It works fully when there is enough sunlight. When the gas cylinder is used, it last for three days for 96 students. There are two electric buses in the school. The buses are used as means of transportation for school students.

Vajra Academy has also followed the green study curriculum derived from Green School of Bali, Indonesia. Green study is being taught from Grade II to X. The environmental education should be prioritized in the curriculum<sup>27</sup> and students need to be made aware about environmental problems and its impact on health.<sup>28</sup>

### Conclusion

The study found that the students have high knowledge of green living. Though the curriculum of Nepal Government hasn't incorporated all components of green living in Grade VI and VII,

but the students of Vajra Academy are already familiar with these concepts due to observation of their school environment and daily practices. It was found that there is no gender difference in gaining knowledge about the green living components. The knowledge level of students regarding green living was extraordinary, the attitude was good and practice level was average.

The green living practices helps the schools to promote environmental sustainability and also helps to reduce the expenses on energy. Nepal Government should focus on green living and promote the sustainable activities. It is necessary to include the sustainable living topic in the curriculum as well for better adoption of environment practices by the students.

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### Conflict of Interest

The author declares no conflict of interest.

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