

Management of SDG-3 related Concepts in Class III Environmental Studies Textbook of Assam

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Abstract

This study examines the representation of SDG-3 (Good Health and Well-Being) concepts in the Class III Environmental Studies textbook of Assam, with a focus on preventive health practices, including handwashing, vaccination, and safe drinking water. Using a content analysis method, all ten units of the textbook were analyzed to identify which health-related concepts are present, partially covered, or missing.

The findings reveal that the textbook provides partial coverage of SDG-3 concepts. Units such as *Let Us Go to the Garden* and *Taking Care of the Body* introduce nutrition, medicinal plants, exercise, and physical health, while *Our Family* and *Proper Use of Leisure Time* address emotional well-being, cooperation, and mental health. Safe drinking water is emphasized in Units 4, 5, and 8, highlighting water sources, pollution prevention, and cleanliness. However, essential preventive health practices, such as handwashing and vaccination, are completely absent across all units. Several units, including *About the Sky* and *Our Village*, do not contain any health-related content, reflecting uneven coverage of SDG-3 concepts.

The study concludes that while the textbook encourages general health awareness, environmental hygiene, and emotional well-being, it fails to provide comprehensive guidance on preventive measures critical for child health. Integrating basic practices such as handwashing, vaccination, and first aid education would strengthen the textbook's alignment with SDG-3 and promote a more holistic understanding of health and well-being among young learners. This analysis underscores the need for curriculum enhancement to ensure that primary education equips students with foundational knowledge for both physical and psychosocial health.

Keywords: SDG-3, Good Health and Well-Being, Environmental Studies, Class III, Preventive Health, Textbook Analysis, Assam.

Introduction

At 21st century people are busy in innovation, technological practices, making money for searching peace and happiness. Many times, we forget our health and wellbeing due to many reasons. **WHO** describes health as a state of total wellbeing of physical, mental and social aspect; the concept of health is not limited to absence of disease or infirmity. Health is the

primary factor of human live and acquiring good health is the fundamental right of every individual. At present, world communities are talking about Sustainable Development Goals; the global commitment tend to ensure safe future by practicing 17 goals. Out of 17 goals the 3rd goal popularly known as SDG-3 is all about “Good health and well-being.” For achieving this goal by 2030 world communities need to be take some strategies; researches show that awareness through education can be an effective one for accomplish this goal.

Sustainability and Sustainable Development Goals: Sustainability refers fulfilling the present needs without hampering the ability of future generations to fulfil their needs (**United Nations Brundtland Commission, 1987**). Sustainability is a continuous process not the end product. Sustainability simply means sustain the capacity of ecological systems so that our future generation need not to compromise for use. Sustainability is requirement of our present generation to effectively manage available resources so that it must ensure quality life style of both present and future generation (**Asheim, 1994**). There are three pillars of sustainability i.e. Economic, Social and Environmental which were introduced by the World Summit on Social Development of United Nations held in 2005 (**United Nations General Assembly, 2005**).

The concept of sustainable Development highlights the need to improve our lifestyle without hampering the well-being of future generation (**Lasekan, et al., 2023**). In general view Sustainable Development includes three interrelated and complimentary approaches i.e. Economic, Environmental and Social development (**Ciegis, et al.,2009**). The concept of Sustainable Development aims to make balanced among environmental, economic and social components (**Jabareen, 2006**). These developments must not see as constrains of future generation. Sustainable development is a global commitment to ensure quality human life, living with carrying the capacity of supporting ecosystems (**The International Union for Conservation of Nature**).

Sustainable Development Goals (SDGs): Sustainable Development Goals (SGDs) are the global initiatives to ensure sustainable future for all. The foundation of SDGs laid on **United Nations Conference on Sustainable Development, 20-22 June 2012, Rio de Janeiro**. In the year 2015 all United Nations members took an agenda popularly known as “The 2030 Agenda for Sustainable Development” for ensuring sustainability. 17 SDGs are the heart of this agenda (**Department of Economic and Social Affairs, UN**). UN member countries intend to achieve these 17 goals by 2030. The 17 SDGs are present below.



Figure:2 Sustainable Development Goals

The government of India also shown positive response towards global initiative 17 SDGs and sign the declaration 2030 agenda on September 2015. In the current report of Sustainable Development Goals Index, India's rank is 109 with overall 63.99 score (**SDG Transformation Centre: Rankings, 2024**).

Education for Sustainable Development (ESD): Education for Sustainable Development is the recent and emerging concept of education. ESD is the reaction towards challenges facing by our planet. ESD is the deliberate practice for empowering individuals with knowledge, skills, values, attitudes and behaviours which is beneficial to our environment, economy, and society. The main vision of ESD is to create a sustainable future through responsible choices (**UNESCO**). Education is the key component of achieving Sustainable Development Goals (SDGs); it breaks poverty, reduce inequalities and gender discrimination, empower all people to healthy and sustainable lives (**United Nations**). ESD refers incorporating sustainable development issues into teaching and learning process, the suitable topics for inclusion are poverty eradication, peace, justice, human rights, gender equality, ensuring good health, environmental protection, rural and urban development, natural resource management and other SDGs related concepts (**UNECE, ESD strategy**).

SDG-3 in Environmental Textbook: Textbooks are the key components for cultivating knowledge, skills, competencies among learners. ESD is the strategy for achieving SDGs and emphasizes on developing competencies through education. UNESCO provide a guidebook named "***Textbook for sustainable development -A guide to embedding.***" UNESCO emphasizes on ESD-led curriculum so that world communities achieve SDGs.

In present study, the investigators select the class-III Environment studies textbook i.e. **We and Our Environment; Part I** developed by **State Council of Educational Research and Training**, approved by **Government of Assam** and published by the **Assam State Textbook Production and Publication Corporation Limited**, Guwahati on behalf of Govt. of Assam, India. In Assam class-III students study the Environment studies textbook as a core discipline. The textbook tends to develop very basic concepts regarding our lives such as, our

surroundings, birds, animals, trees, family components, school components, water body, communication etc. The textbook intends to prepare responsible citizen of the country as well as of globe.

Review of related literature: **Jeremy, et al. (2017)** argue that social science textbook worldwide plays vital role in transforming various components concerning SDGs. Knowledge, skills can be acquired through social science textbook for achieving 2030 agenda of SDGs. **Nguyen, (2019)** suggest that curricular developer should give emphasis on Education for Sustainable Development related themes while preparing curriculum basically of geography subject. He argues that many times textbook developer give emphasis on one dimension of SDG but it need to be multi-dimensional. **Haque's (2013)** investigate about inclusion of ESD in national curriculum of Bangladesh at primary level. He found that the updated national curriculum and textbook for 1-5 grades sufficiently represent ESD related concepts across various subjects not only on science. **Annamalai, et al. (2025)** found in their study that out of 17 SDGs only some SDGs (SDG7, SDG9, SDG11, SDG13, SDG14, and SDG15) dominated in Malaysian High School English Textbooks. **Ahmad Qabian. et al. (2025)** Conducted a study on “Mapping the representation of four SDGs in international elementary science curriculum and textbooks.” They found that the science curriculum framework represents skills and applications for SDG 4 across all four grades. There was a moderate representation of knowledge and understanding and skills and applications for SDG 15, while SDG 6 and SDG 8 were represented minimally or not at all at times. **Muhammad J. et al. (2024)** study explore that Justice, equality, cultural diversity, and ethics have been sufficiently represented throughout the textbook with fewer explanations and discussions on issues that deal with the environment, climate change, responsible economic growth, and institutional frameworks. **Md. Moazzam (2019)** argue that Sustainable development closely interrelated with environmental education and has become an important part of education at all levels. We should be responsible for its conservation and protection. Development should be sustainable. Education for Sustainable Development (ESD) is an integral part of quality education as well as an important mean for sustainable development. **Sajjan Choudhuri (2019)** argued that there are a little number of literatures regarding sustainable development initiatives in India and many of the SDGs were remain unexplored by the researchers. Also, concluded by identifying the SDGs of gender equality, reduction in inequality, peace and justice, and responsible consumption and production as the most important research areas for future research of sustainable development initiatives in India.

Research gap: Researchers investigates various research works of concern field. The review indicates that there are very little amount of research works exist in the field of management of SDG-3 related concepts in the textbooks; there are many scopes for further researches in the field of management of SDG-3 in school textbooks. It is seen that there are some researches have done on management of SDGs in Social Science, Science, Mathematics, English language etc. textbooks in other countries. In India a smaller number of studies are done in the concern field.

Existing studies indicates few SDGs such as SDG-4, SDG-6, SDG-8, SDG-15 are potentially reflected on the textbooks and have huge scopes of many studies in the concern field. Investigators found that there is no any proper investigation in understanding the management of SDG-3 related concepts on Environmental Studies textbooks in India. At the current status, there is no research in Assam, India on “management of SDG-3 related concepts in Environment Studies textbook of class-III” SCERT, Assam Textbook

Significance of the study: Education is the process of modifying learners' behaviours in a desired manner. Textbooks are the means of these modifications. Textbooks are the key components of imparting knowledge, skills, competencies among school going learners. In the present study investigators select class-III environmental studies textbook because, the young children (8-9 years old) are the curious one and they are in the initial phase of education, in Indian society this age is called the age of imposing good manners, habits, thinkings, moral sense etc. within our young mind. Most importantly it is the time of rapid brain development and memory capacity. Researchers assumes that this is the right period of imparting, imposing knowledge, skills, competencies needed for good health and well-being. In school education the textbooks are prepared by prominent authors, experts and educationalist. In Assam, elementary education is run on joined practices of SCERT, Department of Elementary Education, Assam, Directorate of Elementary Education, Assam, State Education Board, Sarva Shiksha Abhiyan. Textbooks are prepared according to the guidelines of National Curriculum Framework for School Education-2023(NCERT) now (Prior NCFSE-2023 National Curriculum Framework 2005 provides the guidelines for textbooks preparation). SCERT and Department of Elementary Education, Assam prepares various textbooks such as, Assamese, English, Hindi and other local languages, Mathematics, Environmental Studies, Social Science etc. Environmental studies are the core subjects from class-I to class-V in Assam. Which incorporates basic concepts regarding our social system, educational institutions, health and hygiene, civic sense, morality, humanitarian values etc. As

we know SDGs has different aspects, in the present study the investigators tend to know up to what extent the SDG-3 related concepts are represented in Environmental Studies textbook of Class-III of Assam.

Researches expected that, this study will give insight to educators, policymakers, government and common masses the current status, gap of SDGs in Environmental Studies textbook of class-III of Assam. This study helps further researchers to use it as reference. This study can be beneficial and provide information about SDGs based textbooks as learning materials for class-III students in Assam, India.

Research questions: The researchers formulate the following two research questions-

1. Which SDG-3 concepts are present or absent in the Class III Environment Studies textbook of Assam?
2. How are preventive health practices (e.g., handwashing, vaccinations, safe drinking water) represented?

Objectives of the study: Followings are the objectives of the study-

1. To identify the SDG-3 related concepts that are included or missing in the Class III Environmental Studies textbook of Assam.
2. To analyze the representation of preventive health practices such as handwashing, vaccinations, and safe drinking water in the content of Class III Environmental Studies textbook of Assam textbook.

Methods and materials: Research is systematic study about any phenomenon. Rocco (2011), argue that Research is careful and very systematic investigation of searching new fact or information of any branch of knowledge. It is a scientific process which has some systematic methodologies. For this study, researcher employed qualitative content analysis approach. This approach is frequently used in qualitative research to determine the presence of certain words, themes, or concepts within some qualitative data. To conduct present study, investigators choose qualitative design because investigator tend to describe the research result in the form of words which can lead absolute result in this type of study. Investigators used content analysis which analyze the document (school textbook) rather than student's behavior. The Environmental Studies textbook named "We and Our Environment part-I" developed by *State Council of Educational Research and Training (SCERT)*, approved by *Government of Assam* and published by the *Assam State Textbook Production and Publication Corporation Limited*, Guwahati on behalf of Govt. of Assam, India was selected using purposive sampling technique and data were analyzed and interpreted through qualitative content analysis.

Data analysis: In this study, for data analysis, core textbook of class-III named “We and Our Environment part-I” developed by *State Council of Educational Research and Training*, approved by *Government of Assam* and published by the *Assam State Textbook Production and Publication Corporation Limited*, Guwahati on behalf of Govt. of Assam, India has been systematically examined.

Data analysis related to objective No. 1: *To identify the SDG-3 related concepts that are included or missing in the Class III Environmental Studies textbook of Assam.*

Unit 1: Let us go to the Garden: This unit introduces students to various kinds of plants, trees, and herbs through a conversation between the teacher and learners. Both the teacher and students visit a garden, observe the surroundings, and discuss what they see. If students are unable to identify the plants, the teacher helps them. The unit highlights vegetables like mustard, spinach, coriander, and mint, as well as fruits that contribute to a healthy life. Importantly, it raises awareness about medicinal plants such as neem, aloe vera, tulsi, and curry leaf tree, emphasizing their benefits and uses. Overall, the unit nurtures young minds with knowledge about plants and the importance of a green environment.

SDG-3 Analysis Table:

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
Nutrition (fruits, vegetables); Medicinal plants (Neem, Tulsi, Aloe vera, Curry leaves)	Hygiene, sanitation, vaccination, first aid, physical activity, emotional well-being	The focus is on plant-based health benefits but overlooks the broader scope of SDG-3.

Unit 2: Animals Around Us: This unit presents different kinds of animals around us, describing their body structures and ways of living. It begins with aquatic animals like fish, explaining their body structure and respiratory system, and continues with amphibians, terrestrial animals, and many domestic and wild animals such as snakes, lizards, and crocodiles. The unit also introduces birds such as crows, common wagtails, vultures, eagles, ostriches, and penguins, highlighting their habitats and characteristics. Finally, through home assignments, the unit helps students understand the importance of domestic animals in daily life, particularly as food sources.

SDG-3 Analysis Table:

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
Food sources from domestic animals (milk, eggs, meat)	Hygiene, disease prevention, zoonotic awareness, safe handling of animals	Emphasis is on animal classification and life, with less focus on health connections.

Unit 3: Our Family: This unit focuses on family life, introducing students to different types of families and the importance of family relationships. It emphasizes values such as respect

for elders, love and kindness toward younger members, helping those in need, and cooperation among family members. The unit also highlights inclusivity, showing how families interact positively with specially-abled children. Cultural aspects of Assamese tradition are included, such as traditional dishes, bell-metal utensils, and the wearing of Mekhela Chadar. Storytelling, songs, and lullabies by grandparents are used to convey family values and cooperative behavior.

SDG-3 Analysis Table:

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
Emotional well-being (love, kindness, cooperation, inclusivity toward specially-abled)	Hygiene, nutrition, health practices, preventive health, first aid	Offers a strong psychosocial aspect and promotes harmony and inclusivity.

Unit 4: Taking Care of the Body: This unit emphasizes the importance of health for humans. It covers the necessity of proper foods, fruits, exercises, and playing games or sports. Students learn about different components of food, including carbohydrates, proteins, and vitamins, along with their sources. The unit encourages a balanced diet and pure drinking water for sound physical health and highlights the connection between body and mind. It concludes with suggestions on road safety and strategies for waste management.

SDG-3 Analysis Table:

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
Balanced diet (carbohydrates, proteins, vitamins); Exercise; Games/sports; Pure drinking water; Link between body and mind; Road safety; Waste management	Vaccination, medicinal plants, first aid, harmful habits	Strongest unit for SDG-3 as it covers nutrition, physical health, safety, and environmental health.

Unit 5: Water in Our Daily Life: This unit focuses on the importance of sustaining usable water and water bodies for future generations. It describes human and animal dependence on water and mentions plants like lotus and lily. The unit explains various sources of water such as rain, ponds, canals, lakes, rivers, streams, seas, and oceans. It raises awareness about water pollution, suggests strategies to avoid wasting water, and emphasizes proper use of water in daily life, including managing one-time use water.

SDG-3 Analysis Table:

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
Safe water use; Water conservation;	Hygiene, sanitation practices,	Provides an environmental health

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
Pollution prevention; Proper utilization of water	health effects of contaminated water	perspective with partial connection to SDG-3.

Unit 6: Our Vehicles: This unit introduces learners to various vehicles, including trains, buses, motor cars, autorickshaws, aeroplanes, boats, ferries, bicycles, and bullock carts, explaining their uses in daily life.

SDG-3 Analysis Table:

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
Road safety (implied through transport knowledge)	Physical health, pollution and respiratory effects, accidents, first aid	Limited direct connection to health.

Unit 7: About the Sky: This unit begins with a poem emphasizing the aesthetic views of the sky at different times of the day. It introduces the eight planets, the solar system, the Earth's natural satellite (the Moon), and other members of the solar system. The unit also includes historical events, such as the Moon landing by Neil Armstrong, Edwin Aldrin, and Michael Collins, and mentions planetariums in Guwahati, Jorhat, and Kokrajhar.

SDG-3 Analysis Table:

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
None directly related	All SDG-3 concepts absent	Purely science and astronomy based.

Unit 8: Our School: This unit describes a model and ideal school where teachers and students maintain cordial relationships, with cooperation from villagers. It emphasizes good sanitation, drinking water facilities, playgrounds, gardens, and wide, scientific classrooms. The unit also introduces measurement tools like thermometers, barometers, and weighing scales, explaining their daily uses.

SDG-3 Analysis Table:

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
Sanitation and clean drinking water; Playground (physical activity); Teacher-student cordial relations (mental well-being)	Nutrition, vaccination, first aid, harmful habits	Offers partial coverage of SDG-3, focusing on infrastructure and well-being.

Unit 9: Proper Use of Leisure Time: This unit emphasizes creating a happy mind and a fit, healthy body, and encourages harmony among friends through playing games. It suggests strategies for proper leisure activities, such as reading, helping at home, writing letters,

planting and caring for flowers, participating in quizzes, and watching or listening to appropriate media. The unit also warns about the harmful effects of excessive mobile phone and TV use on health.

SDG-3 Analysis Table:

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
Physical health (games, sports); Mental health (happy mind, harmony among friends); Harmful effects of excess mobile or TV use	Nutrition, hygiene, first aid, vaccination	Highlights important psychosocial health aspects and balances physical and emotional well-being.

Unit 10: Our Village: This unit introduces learners to the living styles of towns and villages, explaining the structure of cities, towns, and villages. It describes local governance bodies such as the Gaon Panchayat, town committees, municipalities, and municipal corporations, along with their heads.

SDG-3 Analysis Table:

SDG-3 Concepts Present	SDG-3 Concepts Missing	Remarks
None directly related	All SDG-3 concepts absent	Focuses on civic administration rather than health.

Data analysis related to objective No.2: *To analyze the representation of preventive health practices such as handwashing, vaccinations, and safe drinking water in the content of Class III Environmental Studies textbook of Assam textbook.*

Units	Handwashing	Vaccination	Safe Drinking Water	Remarks
Unit 1: Let us go to the Garden	Absent	Absent	Absent	Hygiene indirectly implied, but no explicit guidance.
Unit 2: Animals Around Us	Absent	Absent	Absent	No preventive health instructions.
Unit 3: Our Family	Absent	Absent	Absent	Focus on emotional well-being; preventive health absent.
Unit 4: Taking Care of the Body	Absent	Absent	Present	Clean drinking water mentioned; handwashing and vaccination missing.
Unit 5: Water in Our Daily Life	Absent	Absent	Present	Safe water sources and pollution awareness highlighted; no direct link to disease prevention.

Units	Handwashing	Vaccination	Safe Drinking Water	Remarks
Unit 6: Our Vehicles	Absent	Absent	Absent	No coverage of preventive health.
Unit 7: About the Sky	Absent	Absent	Absent	Science-focused unit; preventive health absent.
Unit 8: Our School	Absent	Absent	Present	Clean drinking water in school mentioned; handwashing and vaccination missing.
Unit 9: Proper Use of Leisure Time	Absent	Absent	Absent	Focus on mental and physical well-being; hygiene practices not covered.
Unit 10: Our Village	Absent	Absent	Absent	Focus on civic administration; preventive health absent.

Discussion and findings: The analysis of the Class III Environmental Studies textbook of Assam revealed that SDG-3 (Good Health and Well-Being) concepts are unevenly represented across units:

- Nutrition and medicinal plants are addressed in Unit 1 through the discussion of vegetables, fruits, and herbs like neem, tulsi, and aloe vera.
- Emotional well-being and social health are highlighted in Units 3 and 9, focusing on family bonding, cooperation, kindness, and proper leisure activities.
- Physical health, exercise, and balanced diet are well-covered in Unit 4, which also addresses water, waste management, and road safety.
- Safe drinking water is included in Units 4, 5, and 8, while handwashing and vaccination are absent across all units.
- Some units, such as About the Sky (Unit 7) and Our Village (Unit 10), have no direct health content.

Overall, the textbook provides partial coverage of SDG-3, focusing more on nutrition, physical activity, and emotional well-being, while preventive health practices and other crucial components remain underrepresented. The analysis of the Class III Environmental Studies textbook of Assam also reveals that preventive health practices are inadequately represented. While safe drinking water is partially addressed in Units 4, 5, and 8, critical practices such as handwashing and vaccination are completely absent. This indicates a

significant gap in early health education, as children are not provided with foundational knowledge about simple yet essential preventive measures.

Conclusions: The Class III EVS textbook of Assam successfully introduces children to several aspects of health, including nutrition, physical activity, and emotional well-being. However, critical preventive health practices such as handwashing and vaccination are absent, and some units completely omit health content. To fully align with SDG-3, the textbook requires enhancement in hygiene, preventive health, and disease awareness, ensuring that young learners acquire a balanced understanding of health and well-being.

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