

ENVIRONMENT
&
POLLUTION AUDIT REPORT
2018-19



Submitted by

External Member – Dr. Chitra Pattanaik

(Internal Members)

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24.6.24

PRANANATH COLLEGE (AUTONOMOUS) KHORDHA

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Dr. S. P. Mishra
24.6.24

Introduction

The environment audit aims to analyse environmental practices within and outside the college campuses, which will have an impact on the eco-friendly atmosphere. Environment audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of college environment. It was initiated with the motive of inspecting the effort within the institutions whose exercises can cause threat to the health of inhabitants and the environment. The rapid environmental degradation at local, regional and global level is leading us to global "Environmental poverty". Stabilization of human population, adoption of environmentally sound and sustainable technologies, reforestation and ecological restoration are crucial elements in creating an equitable and sustainable future for all humans in harmony with nature and natural resources. As an Institution of higher education, Pranath college, Autonomous (PNCA) Khordha, is deeply concerned and believes that there is an urgent need to address these fundamental problems and reverse the trends of environment degradation. Being a premier institution of higher learning, PNCA is aware of its responsibilities towards environmental issues and therefore has resolved to play a major role in the education, research, policy formation and information exchange necessary for a sustained environmental campaign. This report is based on the approaches and interventions done on part of the Institution to address the environmental concerns of the PNCA campus. The current environmental audit represents the first stage in our efforts to build environmental sustainability on the campus. The audit was conducted by a team of faculty and students with support from various stake holders of PNCA. This environmental audit conducted is not only significant for the institution, but also for the other institutions to emulate and adopt as a model and therefore contribute regionally as well as nationally in this endeavour of sustainable environment for all.

Introduction to environmental audit

Environmental audit is a general term that reflects various kinds of evaluations intended to identify environmental compliance and management system, implementation gaps, along with related corrective actions. It aims to analyze environmental practices within and outside of the concerned sites, which will have an impact on the ecofriendly ambience. Environment audit is a useful tool to determine how and where the most energy or water resources are being used; and can then considerations be given on how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. It can create health consciousness and promote environmental awareness, values and ethics. It imparts a better understanding of Green impact on campus to staff and students.

Need for environmental audit

Environment auditing is the process of identifying and determining whether institutions practices are ecofriendly and sustainable. If self enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self enquiry is a natural and necessary outgrowth of a quality educational institution. Thus, it is imperative that PNCA evaluates its own contributions toward a sustainable future. The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background, it becomes imperative to adopt the system of the "Green Campus" for the Institutes which will lead to sustainable development and at the same time reduces a sizable amount of atmospheric carbon dioxide from the environment.

Objectives of environmental audit

Concern about environmental degradation and realization of values of environment are logical consequences of teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generations of students, PNCA has made a self-inquiry on environmental quality of the campus with the following objectives to achieve:

- i. Establishing a baseline of existing environmental conditions with focus on natural and physical environment;
- ii. To examine the current practices, which can impact on environment such as of resource utilization, waste management etc.
- iii. Understanding the current practices of sustainability with regard to the use of water and energy, generation of wastes, purchase of goods, transportation, etc;
- iv. Awareness generation among students concerning real issues of environment and its sustainability
- v. Continuous assessment for betterment in performance in environment.
- vi. Promotion of environmental awareness through participatory auditing process; and
- vii. To create a report that document baseline data of good practices and provide strategies and action plans towards improving environmental quality for future.

The College at a Glance

Prananath college (Autonomous), Khordha was established in the year 1959, located along the Chennai- Kolkata NH 16 covering an area of 74.428 acre of land. The built up area for class rooms, laboratories halls, library, office, hostels etc. covers only 5.5 acres approximately. It is located $20^{\circ} 10', 48''$ N latitude and $85^{\circ} 38', 21''$ E longitude. Bhubaneswar the capital city is only 20Km away from it. Khordha comes under laterite sub -region. The average temperature varies from 41° C in summer to 19° C in winter. The annual rain fall is 1443mm.



24.6.24

Methodology

This compilation is based on the Survey by Questionnaire. The survey was done in the whole campus by dividing it into six sections. On the basis of data requirement, set of questionnaires about electricity consumption, water consumption, waste generation, solid waste collection and transport were prepared.

Survey by questionnaire - The committee brainstormed and evolved a questionnaire. Questionnaire survey was conducted in the College Campus. The different questionnaire formats were restructured also with different combinations and modifications. The final sets of questionnaires were prepared based on solid waste, energy, fuel, water, hazardous wastes and e-wastes. The framed questionnaires were distributed among students, scholars and staff of the college to fetch the information pertaining to the Environmental audit. The information gathered during the surveys was compiled for the further analysis. The results are depicted graphically to have a quick glance of the status and interpretation of the results of the audit.

Land use - PNCA is using land for diverse purposes so that facilities are provided to all concerned for the smooth functioning and working. The information about the area occupied by the various land uses from the map is gathered. The data is reflected in below table:

Area under various land uses in the PNCA campus

Land use	Area (in acres)
Built up	5.5
Forest	35
Gardens	4.65
Playground	14.75
Vehicle Parking Spaces	0.5
Canteen	0.35

Energy audit

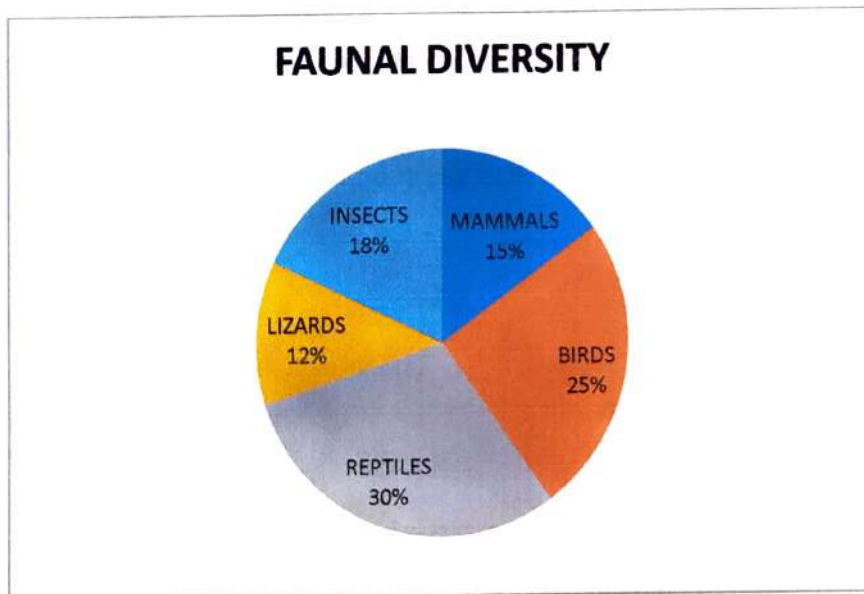
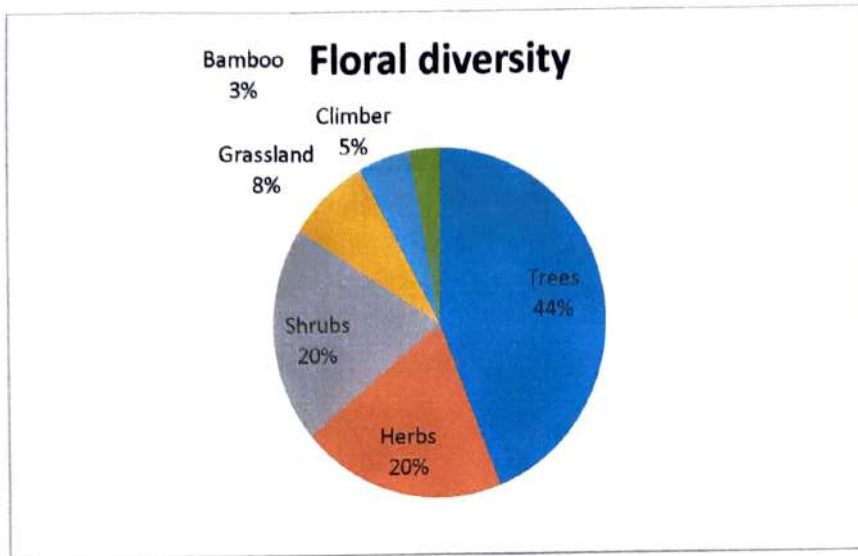
Energy audit is the key to systematic approach for decision making in the sphere of energy management. It attempts to balance the total energy inputs with its use, and serves to identify all the energy streams in a facility. It quantifies the energy usage according to its discrete functions. The energy is utilized in the Campus for lighting, space heating and cooling, running of laboratory instruments, appliances, water heating, ground water pumping, cooking etc.

Data indicated that the college utilizes renewable as well as non-renewable energy sources to meet its energy needs. Calculations are made on basis on number of LPG cylinders utilized by Hostels, Faculty Quarters, Departments and other administrative wings of PNCA. Most of the energy requirement of the College is met by hydropower generated electricity supplied by the State Government.

Floral and Faunal Diversity

From the present study it has been noticed that floral diversity and number of plant species have been increased remarkably due to different plantation drive. More than 250 plant species were recorded to be present which includes dicots, monocots and grasses, climbers, twinners,

gymnosperms etc. This rich floral diversity has also able to give shelter to various animal species. Floral and faunal diversity of the campus is represented graphically as follows:



POLLUTION AUDIT

From the present study it has been observed that Pranath college, Autonomous is situated in an ecofriendly, green and clean ambience. There is no major pollution source in the college. Air pollutants generated by vehicular traffic of nearby NH 16 is balanced by the forest and the greenery of the campus. Plastic and tobacco is banned in the campus. Whatever waste materials are generated is handled carefully.

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GREEN PRACTICES ADOPTED

A. PLANTATION PROGRAMME

Various plantation programme is being organised during the month of July to December in the college campus through Vanmahostav, Eco- club, NSS and many other Social activities by almost all Departments. It helps to improve eco friendly environment. This may lead to a prosperous future of the Green Campus. Nearly about 20 varieties of tree species has been planted in plantation programme and about 50 varieties of ornamental plants are grown for beautification of the campus. Many rallies also conducted in the campus for awareness among students towards plantation programmes.

B) RAIN WATER HARVESTING SYSTEM

Rain water harvesting system has been under taken in the college campus to increase the ground water level.

C) WASTE MANAGEMENT

Biodegradable waste generated from college hostels, canteens etc. are converted into green manure. Other wastes are also properly disposed.

D) HEALTH CENTRE

These centers often provide medical facilities on campus where students can receive emergency treatment and preventive care.

Recommendations

The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of College authorities and also all stake-holders of the College.

1. Environmental auditing may be conducted by the College in every two years.
2. Rainwater harvesting facilities may be strengthened at both administrative and academic campuses, foreseeing future needs of water. Further, rainwater pits can be prepared at appropriate places identified and restoration activities may be initiated to sustain the health of ponds and wetlands in and around the campus.
3. Propose a system for collection and disposal of waste sorted out as organic and others on a daily basis, managed by the campus administration. For managing organic wastes, biogas plants may be commissioned at the hostels, canteens, and staff quarters.
4. The public lights within the campus may be run with solar panels and the replacement of existing lights should be done with LED lamps.
5. Frame a holistic campus development plan to foresee the future developmental needs in tune with green charter adopted by the College.
6. All the blocks in the Campus should develop a garden in front of the building.
7. Green habitat concept should be adopted for all the building construction activities of the college in future, which may help a long way in reducing energy usage, increasing aesthetic

appeal of the buildings and class rooms, besides reducing carbon foot print. Further, more green spaces should be established all around the campus around larger trees and shades for the benefit of the students.

8. Fire safety instruments should be installed in all the buildings.
9. More public toilets/e-toilets may be established in the campus and in hostels; separate toilets are required for differently abled students.
10. Vehicle pooling should be promoted among both students and faculty and use of bicycles should be promoted as a policy of college.
11. Irrespective of the subjects, one credit may be given to students participating in environmental conservation/awareness activities.

CONCLUSION

From the present study it has been concluded that PNCA is taking care of its environment to make it eco-friendly, green and clean to create a pollution free campus.

ACKNOWLEDGEMENT

We are grateful to our Principal Dr. Ranjita Sethi madam for giving us the opportunity to carry the Environment and Pollution audit.

We are also thankful to all the staff members and students of our college for their support.

Ranjita Sethi
24.6.24

ENVIRONMENT
&
POLLUTION AUDIT REPORT
2019-20



Submitted by

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(Internal Members)

Dr. Buli Kumari Panigrahi

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Mr. Lingaraj Parida

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Mrs. Mousumi Majhi

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Dr. Chitra Pattanaik
25.6.24

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Dr. P. S. Patra
25.10.2021

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25.6.24

Objectives of environmental audit

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25/11/24

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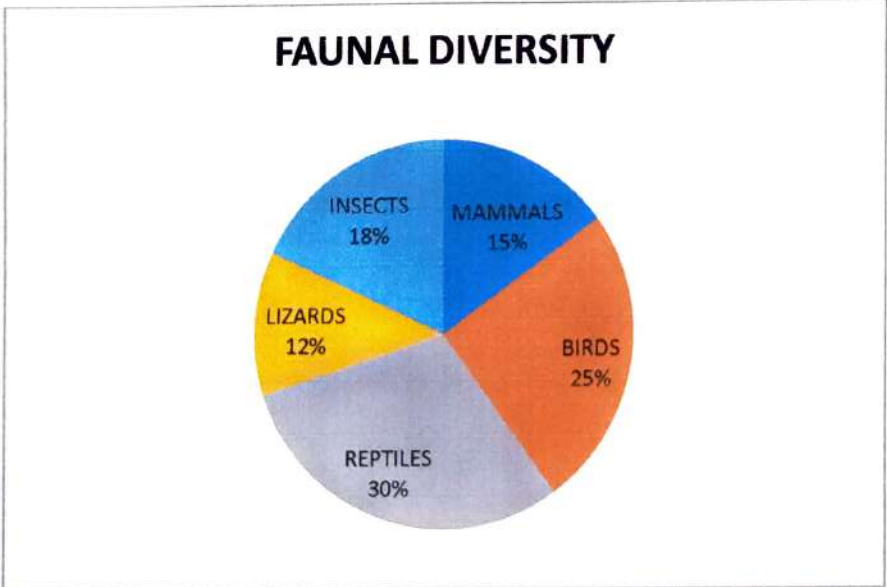
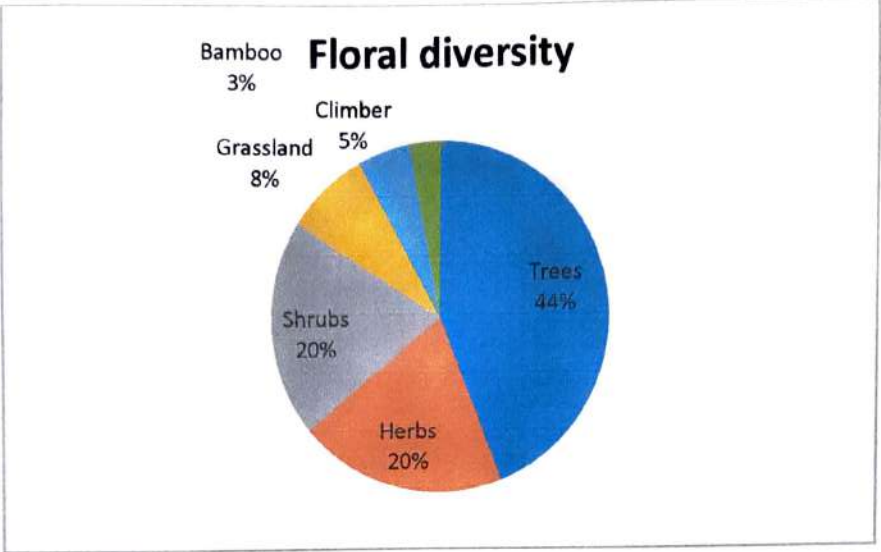
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 25.10.24



POLLUTION AUDIT

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*6/2/2024
25.6.24*

GREEN PRACTICES ADOPTED

A. PLANTATION PROGRAMME

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B) RAIN WATER HARVESTING SYSTEM

Rain water harvesting system has been under taken in the college campus to increase the ground water level.

C) WASTE MANAGEMENT

Biodegradable waste generated from college hostels, canteens etc. are converted into green manure. Other wastes are also properly disposed.

D) HEALTH CENTRE

These centers often provide medical facilities on campus where students can receive emergency treatment and preventive care.

E) RO PLANT

RO plant is provided inside the campus to supply water to the entire campus.

Recommendations

The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of College authorities and also all stake-holders of the College.

1. Environmental auditing may be conducted by the College in every year.
2. Rainwater harvesting facilities may be strengthened, foreseeing future needs of water.
3. Rainwater pits can be prepared at appropriate places identified and restoration activities may be initiated to sustain the health of ponds and wetlands in and around the campus.
4. Propose a system for collection and disposal of waste sorted out as organic and others on a daily basis, managed by the campus administration.
5. For managing organic wastes, biogas plants may be commissioned at the hostels, canteens, and staff quarters.
6. The public lights within the campus may be run with solar panels and the replacement of existing lights should be done with LED lamps.
7. All the blocks in the Campus should develop a garden in front of the building.
8. Fire safety instruments should be installed in all the buildings.

*W. S. Sharma
25.6.24*

9. More public toilets/e-toilets may be established in the campus and in hostels.
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CONCLUSION

From the present study it has been concluded that PNCA is taking care of **its environment** to make it eco-friendly, green and clean to create a pollution free campus.

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25-6-24

ENVIRONMENT & POLLUTION AUDIT REPORT

2021-22



Submitted by

Dr. Gitanjali Rout

GDR Gitanjali Rout

Dr. Arabinda Pradhan

Arabinda Pradhan

Dr. Rashmi Rekha Barik

Rashmi Rekha Barik

PRANANATH COLLEGE (AUTONOMOUS)

KHORDHA

Principals

Principal
PRANANATH COLLEGE
(Autonomous)
KHORDHA

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INTRODUCTION

The rapid environmental degradation at local, regional and global level is leading us to global "Environmental poverty". Stabilization of human population, adoption of environmentally sound and sustainable technologies, reforestation and ecological restoration are crucial elements in creating an equitable and sustainable future for all humans in harmony with nature and natural resources. Thus, academic leaders must initiate and support mobilization of internal and external resources and knowledge so that their institutions respond to environmental challenges. As an Institution of higher education, Pranath college, Autonomous (PNCA) Khordha, is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends of environment degradation. We deeply subscribe to the fact that humans should be stewards of Mother Nature and that we all have a profound responsibility to protect the earth's resources in perpetuity. Being a premier institution of higher learning, PNCA is aware of its responsibilities towards environmental issues and therefore has resolved to play a major role in the education, research, policy formation and information exchange necessary for a sustained environmental campaign. This report is based on the approaches and interventions done on part of the Institution to address the environmental concerns of the PNCA campus. The current environmental audit represents the first stage in our efforts to build environmental sustainability on the campus. The audit was conducted by a team of faculty and students with support from various stake holders of PNCA. It is indeed the reflection of PNCA's endeavour to exercise leadership in promoting sustainability and an institutional obligation to instil among all students and each of us, and those in the broader community a sense of environmental stewardship. This commitment of PNCA has lead to actions whose reflection is visible remarkably on ground. This environmental audit conducted is not only significant for the institution, but also for the other institutions to emulate and adopt as a model and therefore contribute regionally as well as nationally in this endeavour of sustainable environment for all.

INTRODUCTION TO ENVIRONMENTAL AUDIT

Environmental audit is a general term that reflects various kinds of evaluations intended to identify environmental compliance and management system, implementation gaps, along with related corrective actions. It aims to analyze environmental practices within and outside

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NEED FOR ENVIRONMENTAL AUDIT

If self enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self enquiry is a natural and necessary outgrowth of a quality educational institution. Thus, it is imperative that PNCA evaluates its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent. The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background, it becomes imperative to adopt the system of the "Green Campus" for the Institutes which will lead to sustainable development and at the same time reduces a sizable amount of atmospheric carbon dioxide from the environment. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through Carbon Footprint reduction measures.

OBJECTIVES OF ENVIRONMENTAL AUDIT

Concern about environmental degradation and realization of values of environment are logical consequences of teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generations of students, PNCA has made a self-inquiry on environmental quality of the campus with the following objectives to achieve:

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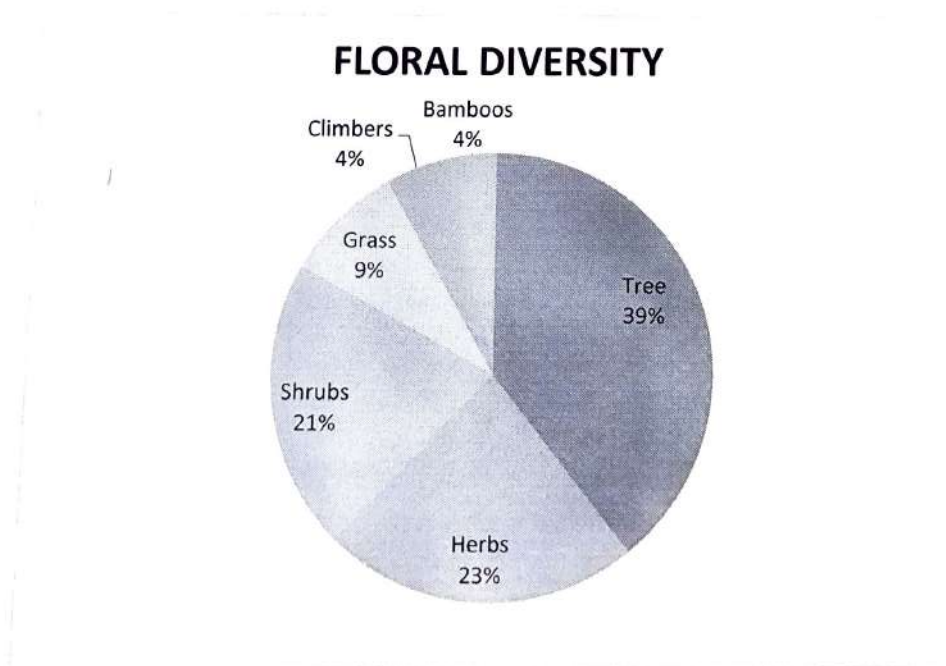
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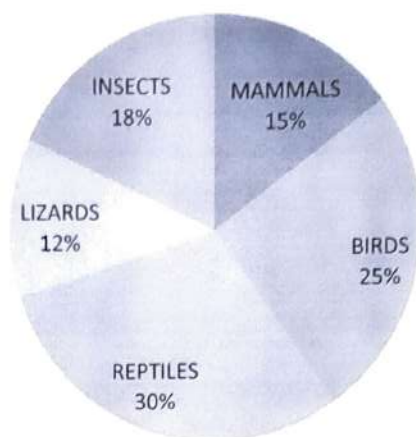
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FLORAL AND FAUNAL DIVERSITY

From the present study it has been noticed that floral diversity and number of plant species have been increased remarkably due to different plantation drive. More than 250 plant species were recorded to be present which includes dicots, monocots and grasses, climbers, twinners, gymnosperms etc. This rich floral diversity has also able to give shelter to various animal species. Floral and faunal diversity of the campus is represented graphically as follows:



FAUNAL DIVERSITY



POLLUTION AUDIT

From the present study it has been observed that Pranath college, Autonomous is situated in an ecofriendly, green and clean ambience. There is no major pollution source in the college. Air pollutants generated by vehicular traffic of nearby NH 16 is balanced by the forest and the greenery of the campus. Plastic and tobacco is banned in the campus. Whatever waste materials are generated are handled carefully.

GREEN PRACTICES ADOPTED

A. PLANTATION PROGRAMME

Various plantation programme is being organised during the month of July to September in the college campus through Vanmahostav, Eco- club, NSS and by almost all Departments. It helps to improve eco friendly environment. This may lead to a prosperous future of the Green Campus. Nearly about 20 varieties of tree species has been planted in plantation programme and about 50 varieties of ornamental plants are grown for beautification of the campus.

B) RAIN WATER HARVESTING SYSTEM

Rain water harvesting system has been under taken in the college campus to increase the ground water level.

C) WASTE MANAGEMENT

Biodegradable waste generated from college hostels, canteens etc. are converted into green manure. Other wastes are also properly disposed.

RECOMMENDATIONS

The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of College authorities and also all stake-holders of the College.

1. Environmental auditing may be conducted by the College in every two years.
2. Rainwater harvesting facilities may be established at both administrative and academic campuses, foreseeing future needs of water. Further, rainwater pits can be prepared at appropriate places identified and restoration activities may be initiated to sustain the health of ponds and wetlands in and around the campus.
3. Specific waste management plans should be adopted to manage solid waste in the campus, with the assistance of State Swachhta Mission and use of plastic carry bags, thermocol cup, plate and flex boards should be banned inside the College.
4. Propose a system for collection and disposal of waste sorted out as organic and others on a daily basis, managed by the campus administration. For managing organic wastes, biogas plants may be commissioned at the hostels, canteens, and staff quarters. The wastes generated can be used for promoting organic farming activities within the campus and the products can be used in hostels and canteens, with a plan to ensure the availability of organic food in the canteen and hostels for future. There should be a system for the management of hazardous wastes.
5. The public lights within the campus may be run with solar panels and the replacement of existing lights should be done with LED lamps.
6. Frame a holistic campus development plan to foresee the future developmental needs in tune with green charter adopted by the College.
7. All the blocks in the Campus should develop a garden in front of the building and the expenditure for the same may be met from the Department Development Fund.

8. Green habitat concept should be adopted for all the building construction activities of the college in future, which may help a long way in reducing energy usage, increasing aesthetic appeal of the buildings and class rooms, besides reducing carbon foot print. Further, more green spaces should be established all around the campus around larger trees and shades for the benefit of the students.
9. Fire safety instruments should be installed in all the buildings.
10. More public toilets/e-toilets may be established in the campus and in hostels; separate toilets are required for differently abled students.
11. Vehicle pooling should be promoted among both students and faculty and use of bicycles should be promoted as a policy of college.
12. Irrespective of the subjects, one credit may be given to students participating in environmental conservation/awareness activities.

CONCLUSION

From the present study it has been concluded that PNCA is taking care of its environment to make it eco-friendly, green and clean to create a pollution free campus.

ACKNOWLEDGEMENT

We are grateful to our Principal Dr. Ajanta Satapathy madam for giving us the opportunity to carry the Environment and Pollution audit.

We are also thankful to all the staff members and students of our college for their support.


(Dr. Geitanjali Raut)


Principal
PRANANATH COLLEGE
(Autonomous)
KI.ORD. 2

ENVIRONMENT & POLLUTION AUDIT REPORT 2022-23



Submitted by

External Member – Dr. Chitra Pattanaik

(Internal Members)

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Dr. Gitanjali Rout *Gitanjali Rout*

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Mrs. Mousumi Majhi *Mousumi Majhi*

Introduction

The rapid environmental degradation at local, regional and global level is leading us to global "Environmental poverty". Stabilization of human population, adoption of environmentally sound and sustainable technologies, reforestation and ecological restoration are crucial elements in creating an equitable and sustainable future for all humans in harmony with nature and natural resources. Thus, academic leaders must initiate and support mobilization of internal and external resources and knowledge so that their institutions respond to environmental challenges. As an Institution of higher education, Pranath college, Autonomous (PNCA) Khordha, is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends of environment degradation. We deeply subscribe to the fact that humans should be stewards of Mother Nature and that we all have a profound responsibility to protect the earth's resources in perpetuity. Being a premier institution of higher learning, PNCA is aware of its responsibilities towards environmental issues and therefore has resolved to play a major role in the education, research, policy formation and information exchange necessary for a sustained environmental campaign. This report is based on the approaches and interventions done on part of the Institution to address the environmental concerns of the PNCA campus. The current environmental audit represents the first stage in our efforts to build environmental sustainability on the campus. The audit was conducted by a team of faculty and students with support from various stake holders of PNCA. It is indeed the reflection of PNCA's endeavour to exercise leadership in promoting sustainability and an institutional obligation to instil among all students and each of us, and those in the broader community a sense of environmental stewardship. This commitment of PNCA has led to actions whose reflection is visible remarkably on ground. This environmental audit conducted is not only significant for the institution, but also for the other institutions to emulate and adopt as a model and therefore contribute regionally as well as nationally in this endeavour of sustainable environment for all.

Introduction to environmental audit

Environmental audit is a general term that reflects various kinds of evaluations intended to identify environmental compliance and management system, implementation gaps, along with related corrective actions. It aims to analyze environmental practices within and outside of the concerned sites, which will have an impact on the ecofriendly ambience. Environment audit is a useful tool to determine how and where the most energy or water resources are being used; and can then considerations be given on how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. It can create health consciousness and promote environmental awareness, values and ethics. It imparts a better understanding of Green impact on campus to staff and students.

Need for environmental audit

If self enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self enquiry is a natural and necessary outgrowth of a quality educational institution. Thus, it is imperative that PNCA evaluates its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent. The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background, it becomes imperative to adopt the system of the "Green Campus" for the Institutes which will lead to sustainable development and at the same

time reduces a sizable amount of atmospheric carbon dioxide from the environment. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Audit Report in different aspects. Moreover, it is a part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through Carbon Footprint reduction measures.

Objectives of environmental audit

Concern about environmental degradation and realization of values of environment are logical consequences of teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generations of students, PNCA has made a self-inquiry on environmental quality of the campus with the following objectives to achieve:

- i. Establishing a baseline of existing environmental conditions with focus on natural and physical environment;
- ii. Understanding the current practices of sustainability with regard to the use of water and energy, generation of wastes, purchase of goods, transportation, etc;
- iii. Awareness generation among students concerning real issues of environment and its sustainability
- iv. Promotion of environmental awareness through participatory auditing process; and
- v. To create a report that document baseline data of good practices and provide strategies and action plans towards improving environmental quality for future.

The College at a Glance

Prananath college (Autonomous), Khordha was established in the year 1959, located along the Chennai- Kolkata NH 16 covering an area of 74.428 acre of land. The built up area for class rooms, laboratories halls, library, office, hostels etc. covers only 5.5 acres approximately. It is located $20^{\circ} 10, 48''N$ latitude and $85^{\circ} 38, 21'' E$ longitude. Bhubaneswar the capital city is only 20Km away from it. Khordha comes under laterite sub -region. The average temperature varies from $41^{\circ} C$ in summer to $19^{\circ}C$ in winter. The annual rain fall is 1443mm.



Methodology

This compilation is based on the Survey by Questionnaire. The survey was done in the whole campus by dividing it into six sections. On the basis of data requirement, set of questionnaires about electricity consumption, water consumption, waste generation, solid waste collection and transport were prepared.

Survey by questionnaire - The committee brainstormed and evolved a questionnaire. Questionnaire survey was conducted in the College Campus. The different questionnaire formats were restructured also with different combinations and modifications. The final sets of questionnaires were prepared based on solid waste, energy, fuel, water, hazardous wastes and e-wastes. The framed questionnaires were distributed among students, scholars and staff of the college to fetch the information pertaining to the Environmental audit. The information gathered during the surveys was compiled for the further analysis. The results are depicted graphically to have a quick glance of the status and interpretation of the results of the audit.

Land use - PNCA is using land for diverse purposes so that facilities are provided to all concerned for the smooth functioning and working. The information about the area occupied by the various land uses from the map is gathered. The data is reflected in below table:

Area under various land uses in the PNCA campus

Land use	Area (in acres)
Built up	5.5
Forest	35
Gardens	4.65
Playground	14.75
Vehicle Parking Spaces	0.5
Canteen	0.35

Energy audit

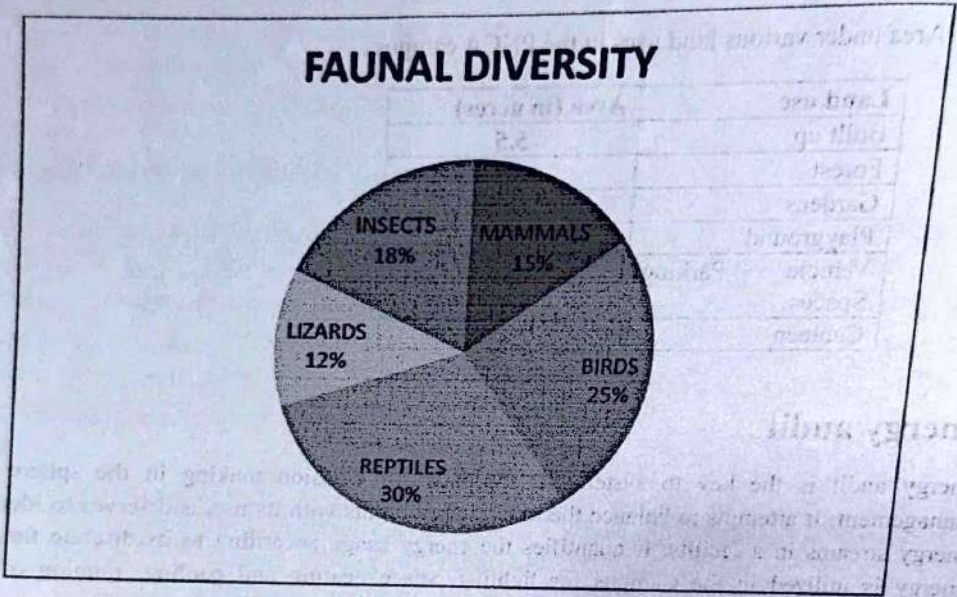
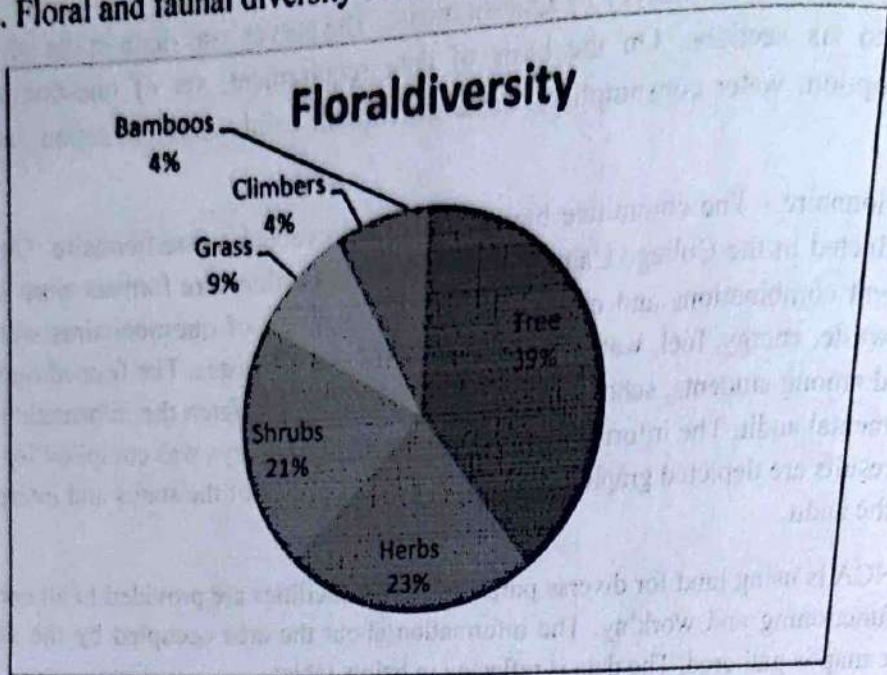
Energy audit is the key to systematic approach for decision making in the sphere of energy management. It attempts to balance the total energy inputs with its use, and serves to identify all the energy streams in a facility. It quantifies the energy usage according to its discrete functions. The energy is utilized in the Campus for lighting, space heating and cooling, running of laboratory instruments, appliances, water heating, ground water pumping, cooking etc.

Data indicated that the college utilizes renewable as well as non-renewable energy sources to meet its energy needs. Calculations are made on basis on number of LPG cylinders utilized by Hostels, Faculty Quarters, Departments and other administrative wings of PNCA. Most of the energy requirement of the College is met by hydropower generated electricity supplied by the State Government.

Floral and Faunal Diversity

From the present study it has been noticed that floral diversity and number of plant species have been increased remarkably due to different plantation drive. More than 250 plant species were recorded to be present which includes dicots, monocots and grasses, climbers, twinnings,

gymnosperms etc. This rich floral diversity has also able to give shelter to various animal species. Floral and faunal diversity of the campus is represented graphically as follows:



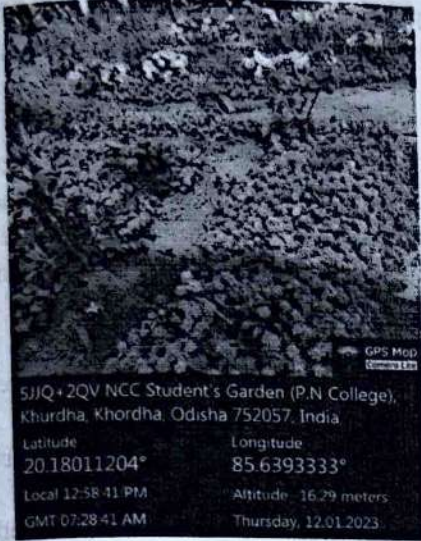
POLLUTION AUDIT

From the present study it has been observed that Pranath college, Autonomous is situated in an ecofriendly, green and clean ambience. There is no major pollution source in the college. Air pollutants generated by vehicular traffic of nearby NH 16 is balanced by the forest and the greenery of the campus. Plastic and tobacco is banned in the campus. Whatever waste materials are generated is handled carefully.

GREEN PRACTICES ADOPTED

A. PLANTATION PROGRAMME

Various plantation programme is being organised during the month of July to December in the college campus through Vanmahostav, Eco- club, NSS and many other Social activities by almost all Departments. It helps to improve eco friendly environment. This may lead to a prosperous future of the Green Campus. Nearly about 20 varieties of tree species has been planted in plantation programme and about 50 varieties of ornamental plants are grown for beautification of the campus. Many rallies also conducted in the campus for awareness among students towards plantation programmes.



B) RAIN WATER HARVESTING SYSTEM

Rain water harvesting system has been under taken in the college campus to increase the ground water level.

C) WASTE MANAGEMENT

Biodegradable waste generated from college hostels, canteens etc. are converted into green manure. Other wastes are also properly disposed.

Recommendations

The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of College authorities and also all stake-holders of the College.

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2. Rainwater harvesting facilities may be strengthened at both administrative and academic campuses, foreseeing future needs of water. Further, rainwater pits can be prepared at appropriate places identified and restoration activities may be initiated to sustain the health of ponds and wetlands in and around the campus.

3. Specific waste management plans should be adopted to manage solid waste in the campus with the assistance of State Swachhta Mission and use of plastic carry bags, thermocol cup, plate and flex boards should be banned inside the College.
4. Propose a system for collection and disposal of waste sorted out as organic and others on a daily basis, managed by the campus administration. For managing organic wastes, biogas plants may be commissioned at the hostels, canteens, and staff quarters. The wastes generated can be used for promoting organic farming activities within the campus and the products can be used in hostels and canteens, with a plan to ensure the availability of organic food in the canteen and hostels for future. There should be a system for the management of hazardous wastes.
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8. Green habitat concept should be adopted for all the building construction activities of the college in future, which may help a long way in reducing energy usage, increasing aesthetic appeal of the buildings and class rooms, besides reducing carbon foot print. Further, more green spaces should be established all around the campus around larger trees and shades for the benefit of the students.
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Ajanta Satapathy
08.08.2023