



7.2.1 QIM	Describe two best practices successfully implemented by the institution as per the NAAC format provided in the manual.
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Title:

Sustainable Development Initiatives on Campus

Atmiya University integrates sustainability into its operations, education, research, and community engagement, guided by the vision of **Inspirer His Divine Holiness Hariprasad Swamiji Maharaj, Founder President, Yogi Divine Society** and **Mentor P.P. Tyagvallabh Swamiji, Founder President, Atmiya University**. The university aims to establish a green, environmentally responsible campus as a benchmark for sustainability and education.

Objectives

- Developing, evaluating and maintaining an **Environmental Sustainability Policy**.
- Reducing the **ecological footprint** through sustainable practices.
- Fostering **environmental education** by integrating sustainability into the curriculum.
- Promoting **research initiatives** that address local and global sustainability challenges.
- Creating a **sustainable culture** within the university community.
- Encouraging **sustainable usage of resources** to minimize waste and overconsumption.
- Addressing issues related to **biodiversity protection** and **pollution control**.
- Enhancing community engagement through environmental awareness and action initiatives.

Key Practices

1. **Green Energy** (SDGs:7/9/11/12/17):

- Installation of **499.5 KW Rooftop Solar Power Plant** generates 60% of the campus's energy, reducing reliance on non-renewable sources and hence reducing greenhouse gas emissions. University is also planning to expand the capacity that generates 80% of the requirement upto 2029.

Use Solar, Save Nature Awareness Drive among stakeholders of the University and other Institutes.





2. Energy Efficiency (SDGs:7/9/11/12/12/17):

- Energy-efficient devices and smart systems optimize power usage, maintaining a near-perfect power factor.
- Well-ventilated, naturally lit, Eco-friendly building structure maximize natural light and ventilation, reducing artificial lighting and cooling needs.

3. Holistic and Integrated Waste Minimization, Management and Recycling Initiatives (SDG: 12/13/15/17):

- **Segregated waste bins** for Plastic Waste and Paper Waste ensures waste segregation at the source into recyclables, organic, and non-recyclables.
- **Composting:** Row food waste and flower waste is composted which in turn is fortified with **Panchgavya**. Cooked Food waste is processed through waste treatment plant.
- **Skill Centres:**
 1. **Sarjan: Agricultural Waste Recycling Unit:** Over **1,000 kg of agricultural waste** has been transformed into **10,000+ sustainable products** like Handy & table-top bouquets, photoframes, Garland, Pen-stand etc.
 2. **Parivartan: Paper Recycling Unit:** Over **3,090 kg of paper** has been recycled in five years, saving **74 trees**. The products include **printing paper, packaging materials, eco-friendly bags, and art supplies**.
 3. **Samarth:** Consumer Chemical Formulations like Handwash, Dishwash, Glass cleaner, Phenyl, Toilet Cleaner, Tiles Cleaner etc are produced.
 4. Students contribute in these skill centres through **Value-Added Courses** and the needy students take benefits from **earn-while-you-learn scheme**.
- **Plastic Recycling Unit:** Collaborating with the DDU-Smriti-Manch, Unit transforms plastic waste into sustainable products like bags and packaging materials.
- **Solvent Recycling Unit:** 25-liter distillations Pilot Plant is installed for synthesis & solvent recycling to achieve laboratory purity.



- **RO Water:** Installation of 2 tanks with capacity of 1.15 Lakh litres for storage of waste RO water.
- **Glass Blowing Facility:** Glass repair, reuse, customization and recycling support a circular economy.
- **Enhancing Air Quality & Laboratory Safety:** Alkali Wet Scrubbers exhaust systems effectively control air pollution by removing harmful substances leading to cleaner emissions and compliance with environmental standards.
The same is also being used for learning beyond curriculum.
Installation of Air Handling Unit (AHU) in the cellar in the kitchen area resulting to utilization of less energy.
Installation of Air Quality Index (AQI) display at the campus
- **Safeguarding from Toxic Fumes:** Fume hoods efficiently capture and remove hazardous fumes, vapours, and particulates from labs, ensuring safety.
Improved well-being of students, with practically no respiratory issues.

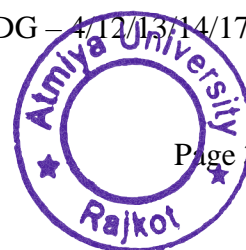
4. Sustainable Agriculture Practices (SDG: 2/3/8/11/12/13/15/17):

- **NIRAMAY – Advanced Farming Technology & Plant Hardening Facility** promotes Vertical Farming, Natural farming, Rooftop gardens, and Hydroponics.
- **Agnihotra Yajna** is used for pest control as well as fumigation. Yajna’s Ash-treated water is used for wellness.
- Organic fertilizers from cow dung, cow urine, and biomass increases self-sufficiency and sustainability. These are produced at the Satyakam **Gaushala** present on campus.
- Establishment of advanced Plant Tissue Culture and Mushroom Culture Laboratories.

5. Rainwater Harvesting (SDG: 6/11/12/13/15/17):

- Installed 13 tanks with storage capacity of 17 Lakh Litres for storing rainwater for conserving water which reduces the reliance on external water sources, and promoting sustainable water management on campus.
- Rajkot Municipal Corporation has approved this as model for water harvesting.

6. Curriculum Integration and Community Engagement (SDG – 4/12/13/14/17):

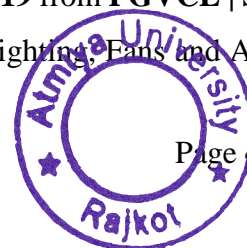




- Mandatory and Elective courses such as **Sustainable Development Goals (SDGs)**, environmental conservation, Human Values for Holistic Living, Value Added Courses, Concept 2 Practice, Internships, NCC, NSS etc
 - Initiatives like **tree plantation drives, Save Energy-Water-Nature campaigns**, and the **Rajkot SDG Aware City Campaign** inspire environmental stewardship.
 - Events and workshops promote awareness of sustainability challenges and solutions.
7. **EV Charging Stations:** Installation in Collaboration with Morris Garages(MG) for 4 Wheelers and with Ather for 2 Wheelers.
 8. Installation of Noise free Sensor based Green Power Generator for backups.
 9. **Nurturing Earth's Lifeline: Organic fertilizer** from Neem leaves, cow manure, pee, and earthworms revitalize the Earth. With perfect pH, rich carbon, and water-holding capacity, **Amrut Soil (Mitti)**-a balanced mixture of cow dung, urine, and biomass, fosters robust plant growth. **Jivamrut** is cow urine and farm waste liquid manure and insecticide
 10. **Trees Plantation:** Plantation of 500+ Neem trees on campus and 5000+ trees off Campus to stabilize ecosystem.
 11. **Campus Digitization:** CMS Co-Created with Alumni and in-house developed ERP for Student & Staff Life Cycle with 10+ Modules and 140+ sub modules.
 12. **Environmental Audit & Consultancy Cell:** Conducted Environmental Audits of 100+ Industries for effective implementation of Air-Water-Land pollution under control as PCB regulations.

Evidence of Success – Last Five Years

- **Green Energy:** Generated **18,73,357** units of Energy | Saved **85,150** Trees | Wheeled **60,372** Units to the Grid | Saved **Rs 150 Lakhs** | University has mentored Installation of **2757 KWatt** Solar Plants and **1425** Solar Water Heater of Stakeholders at their residents, commercials, farmhouses | Installation of 100+ Patented Sensor Based Lights
- **Energy Efficiency:** Received Financial Rebates of **Rs. 5,78,019** from **PGVCL** | Saved **50 to 70%** on Energy by minimizing the need of Artificial Lighting Fans and ACs in the day time and due to smart systems.





- **Recycling Initiatives:** Saved **74** Trees through Paper Recycling | **10000+** sustainable and durable products were made and sold out & 100+ needy students got benefitted from Earn While Learn Scheme through Sarjan | Recycling of 300-ltr.commercial solvent | No freshwater usage for landscaping | 1200+ Glasswares repaired, 500+ customizations and 2400+ Capillary packets produced worth Rs. 120000+
- **Sustainable Agriculture and Biodiversity:** Ph.D. Awarded – Scopus indexed Publications | Production/Week – 20-25 Kg Vegetables, 3-6 Kg Fruit
- **Rainwater harvesting:** 13 storied building is constructed using **5.84 Crore** Litre harvested water only | Saved **Rs.35** Lakh | RainWater Harvesting Borewell of 8inchx600ft size have recharged borewells of neighbouring community in the vicinity of 2 km of the university.
- **Curriculum Integration and Community Engagement:** 15000+ Students participated and sensitized.
- **Campus Digitization:** Increased Efficiency | Data Reliability | Reduction in Usage of paper by 30%
- **Nurturing Earth's Lifeline:** Generation of 1000+ Litres Jivamrut and 1000+ Kgs Amrit Mitti fortified with soil nutrients
- **Trees Plantation:** Difference in the temperature upto 2 degrees within and outside campus | Saved **50+** Trees
- **Environmental Audit & Consultancy Cell:** Earned 400+ Lakhs

The savings and remains are being utilized for holistic developmental activities

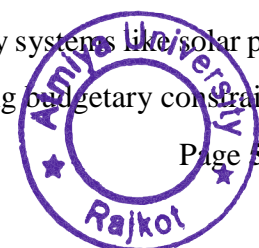
Problems Encountered and Resources Required

Challenges include resistance to change, lack of awareness, and scaling pilot projects. Solutions involve sustained education, financial resources, dedicated personnel, and technology for tracking sustainability metrics.

Problems Encountered and Resources Required

Problems Encountered:

1. **High Initial Investment:** The setup cost for renewable energy systems like solar plants and rainwater harvesting infrastructure was substantial, posing budgetary constraints.





2. **Maintenance Challenges:** Regular maintenance of solar panels, glass-blowing facilities, and solvent recycling units required skilled personnel and consistent oversight.
3. **Awareness and Engagement:** Encouraging behavioral changes among stakeholders, such as waste segregation, energy conservation, and adopting sustainable practices, required persistent efforts.
4. **Scalability Issues:** Scaling successful pilot projects to cover the entire campus required additional resources and time.
5. **Resource Dependency:** Dependence on external vendors for specialized equipment, such as alkali wet scrubbers and fume hoods, caused delays in implementation.
6. **Data Integration:** Transitioning to a fully digitized system for reducing paper usage faced initial resistance and required robust IT infrastructure.
7. **Climate Sensitivity:** Agricultural yields and rainwater harvesting effectiveness were subject to unpredictable climatic conditions, affecting consistency.

Resources Required:

1. **Financial Resources:** Adequate funding for installation, maintenance, and expansion of renewable energy systems, waste recycling units, and water conservation infrastructure.
2. **Skilled Workforce:** Trained personnel for operating and maintaining advanced facilities like glass-blowing units, solvent recycling plants, and digitized systems.
3. **Infrastructure:** Additional storage tanks, rainwater harvesting systems, and updated lab facilities to support sustainable practices.
4. **Technology Support:** Investments in digitization tools, ERP systems, and advanced monitoring equipment like AQI displays and smart systems for efficient campus management.
5. **Educational Resources:** Awareness campaigns, workshops, and training sessions to foster stakeholder engagement and ensure compliance with sustainable practices.
6. **Partnerships and Collaborations:** Collaborating with industry experts, NGOs, and government agencies for knowledge sharing, funding, and technical support.
7. **Natural Resources:** Consistent access to raw materials like biomass and cow dung for producing sustainable products like Jivamrut and Amrut Mitti.





**ATMIYA
UNIVERSITY**

**NAAC – Cycle – 1
AISHE: U-0967**

Criterion- VII

IV&BP

KI 7.2

M 7.2.1

Addressing these challenges and ensuring the availability of the required resources will further strengthen Atmiya University's sustainability initiatives.

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