SL01 SPECIAL LECTURE · WATER & ENERGY SECTORS

Planet Green Force: From Green Education to a Living Laboratory for Water, Energy and Climate Action

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Abstract

Planet Green Force (PGF) responds to the urgent need to translate climate and sustainability education into practical action by empowering schoolchildren to become informed environmental leaders, producers, innovators, and advocates. Developed in collaboration with UNESCO principles, PGF integrates climate science literacy, the Sustainable Development Goals, and the Green Academies pillars of water security, waste management, clean energy, and biomass production through experiential learning, research, community engagement, and school-based projects. Ananda College, Colombo, became the first PGF chapter and has served as the principal demonstration site. Activities have included teacher-training and Train-the-Trainer programmes, the International Day of Greening Education, student-led sustainability competitions and idea campaigns, field-based biodiversity learning, food-security initiatives such as the Seeds of Security programme and Chaya cultivation, and hands-on learning in soil regeneration, composting, aquaponics, hydroponics, nutrition, and sustainable agriculture. The emerging Planet Green Force Center at Ananda College is designed as a living learning and research laboratory where students can explore resource efficiency, food and water security, clean energy, circular practices, and emerging technologies including artificial intelligence for sustainable production. Experience at Ananda demonstrates how a school can become a platform for climate action by linking classroom learning with measurable environmental practice, teacher leadership, student ownership, and community outreach. The PGF model offers a scalable framework for developing environmentally responsible youth and strengthening water-energy-food-climate literacy across schools in Sri Lanka and beyond.

Keywords: *clean energy; climate science literacy; food security; greening education; water security; youth engagement*