



PARRY™
Nutraceuticals

, Division of E.I.D.- Parry (India) Limited



**Towards
Sustainable
Future**



Good on the inside



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Muthiah Murugappan
Whole Time Director and CEO



Good health is the basic need of every individual.

Parry Nutraceuticals constantly strives to work on sustainable cultivation and state-of-the-art production of microalgae health products.

We at Parry, deliver enriching microalgal supplements infused with vital nutrients such as vitamins, minerals that are best-suited for those who are on their toes round the clock.

We at Parry believe that the sustainability of any business is dependent on the communities it serves, the environment that provides resources, and the stakeholders who support its programs and provide valuable insights and feedback for continuous improvement.

The world today is characterised by a finite pool of resources leading to demand - supply imbalance and manifesting in the form of serious developmental challenges that

confront the world today in the form of climate change, poverty, food security, access to water and sanitation. The Sustainable Development Goals (SDGs) introduced by the United Nations, represent some of the multi-lateral interventions that seek to address these global challenges at scale.

What does this mean for us at Parry? We understand that it is our responsibility to take sustainable actions.

We take initiatives that fall in line with our sustainability goals, our commitment to sustainability is visible through our actions. Our state-of-the-art technology has helped us to grow our microalgae organically using local resources. 100% of nutrients incorporated in our supplements are entirely vegan. We refrain from animal testing. We recycle our entire wastewater and use organic waste as compost for tea

plantation. We continue our journey on the sustainability roadmap.

We see sustainability as an opportunity, and take continual efforts to thrive forward on our path, guided by our 4 founding pillars - Traceability, Sustainability, Purity and Humanity for a better tomorrow.

Sustainability entails continuous collaborative efforts across stakeholders to strive for positive societal, environmental and economic impacts. Through the initiatives shared in this report, we will continue to play our proactive and inclusive part in this journey.



Our sustainability policy sets out the principles that guide our decision-making with respect to our social, environmental and ethical performance. Be it our internal teams, suppliers, customers, the neighbouring community, at no point we forget how our business impacts the World. We have developed a sustainability strategy that has three key themes through which we aim to make the biggest difference possible: product excellence, resource conservation and sustainable communities.



Product Excellence:

Traceability of supply to ensure complete transparency across the supply chain so that the best quality of raw ingredients are used in cultivation of our microalgae to deliver nutrient dense microalgae to our customers.



Resource Conservation:

Resource conservation in the value chain and exploring state-of-the-art technologies to help us to conserve our resources.

- We ensure water security for business & community, and sustainable use of water through recycling and recharging.
- Clean energy and energy efficiency



Sustainable Communities:

- Ensure healthy lives and promote well being across all age groups through our products
- Empowering the neighboring communities to be self-sufficient by employment of locals, and forming a harmonious partnership for mutual growth.
- Groundwater development and watershed management projects for the community to ensure drinking water security & increase in agriculture production.

We are aligning our sustainability journey with 4 Sustainable Development Goals (SDG 3, 6, 7 & 12) to create long term value for our business, people and planet.



Introduction

At the pace of urbanization, population explosion, changing food habits and threats like climate change, it becomes essential to begin our journey on the sustainability roadmap.

We believe in actions, and we have taken small but significant steps towards it, but the success in these actions doesn't mean that we would stop! Sustainability to us is like a flight into the infinite skies.. there's always a room for more!

We are demonstrating our responsible behaviour towards environment by reducing our consumption of fuel, energy, water and natural resources, minimising waste generation, growing food sustainability, conducting plantation drives and providing a safe work environment for our employees.

We fulfil this commitment through our four founding pillars that are embedded in all of our operating plans –local as well as global, enabling widespread impacts at the corporate level and throughout our regional locations.

Additionally, we are being helped by industry experts on crafting our sustainability initiatives that address the specific needs and opportunities within our operations and community. This approach has resulted in managing our resources effectively and make considerable progress on the sustainability roadmap.

Our actions for sustainable future are evolving as we seek new and better ways to reduce waste, conserve energy and water, globalise our safety reporting process and encourage community outreach by corporate volunteering.

This is an attempt to start reporting our concerted efforts to safeguard our environment and our journey on sustainability roadmap. Today, we are building on a rich history of best practices and leadership brought to us by our founder Dewan Bahadur A.M. Murugappa Chettiar. As we work to enrich lives with our microalgae products, we see continuous progress on sustainability as a vital measure of our success.



Introduction

OUR MISSION

To consistently produce and supply high-quality supplements packed with nutrients derived from micro-algae and other sources of sustainable nutrition.



Valensa

A leading developer of high quality botanically sourced products. Creates science-based formulations of Nutraceuticals supplements, functional foods, general nutrition, functional cosmetic ingredients and pharmaceutical formulations.

FLORIDA, USA



Alimtec

Committed to commercialize the production of the healthiest strains of Haematococcus Pluvialis that is a freshwater micro-algal species from which natural Astaxanthin is extracted.

CHILE, SOUTH AMERICA



PARRY WELLNESS

The consumer products branch of Parry Nutraceuticals that develops super foods for maintenance of good health

CHENNAI, INDIA



ALGAVISTA

A joint venture between Parry Nutraceuticals and Synthite Industries – a world leader in extraction technology. The Phycocyanin produced by the company is made from 100% natural and Organic certified Spirulina.

OONAIYUR, INDIA

OUR PROCESSES

Microalgae open ponds



Natural raw ingredients



Harvesting in exponential phase



Quality testing by internal and external audit agency



High quality microalgae



Customised formats



Shipped to customers

Harnessing the goodness of micro-algae

Our Global Safety Standards



(GOOD COMPANY)

(GOOD PEOPLE)

(GOOD PROCESSES)

(GOOD PRODUCTS)

28 Businesses



Valued at
INR 547 Billion



**Murugappa
Chettiar Research
Centre (MCRC),
a non-Governmental
Voluntary Research
Organization**



**135-acre open-pond
farming**

Murrugappa Group and Parry Nutraceuticals

We are part of Murugappa Group, one of India's leading business conglomerates. More than a century old, the Group has 28 businesses and is currently valued at INR 547 Billion. The Group's sustainability philosophy covers its environment commitment as well. Murugappa Chettiar Research Centre (MCRC), a non-Governmental Voluntary Research Organization, was established with a vision to take the scientific developments to the rural mass. Almost 4 decades ago, MCRC initiated work on Spirulina due to the growing concern of malnutrition among the children living in rural areas of Tamil Nadu. The initiative was then commercially scaled up to a 250-acre open pond farming facility in South Tamil Nadu, where microalgae are grown in an organic culture based on sustainable practices.



MCRC Research on Spirulina as a significant source of nutrition commences



Commercial production commenced at Oonaiyur, Tamil Nadu, India



Spirulina powder and tablets



ISO 22000 Certified



Microalgae production at Saveriyarpuram, Tamil Nadu, India

Our Founding Pillars



Traceability

We believe in creating long term healthy relationships with all our stakeholders. We ensure complete transparency in our actions, our manufacturing processess, our quality assurance and products information pertinent to our customers and ultimate consumers.



Sustainability

Decades of intensive research has helped us to achieve the best manufacturing practices that help us reduce environmental impacts. Parry Nutraceuticals is methodical in its cultivation techniques, adopting practices that are in tune with our surroundings. This means we stride forward with sustainable efforts and engage in responsible usage of resources and management of water.



Purity

Parry Nutraceuticals works with microalgae in their raw form and ensures minimal processing to retain the goodness quotient of microalgae. The stringent practices and production processes followed by us for our microalgae cultivation do not strip away any of the tremendous health benefits that microalgae have to offer delivering the best outcomes for end products and ultimate consumers.



Humanity

We believe in inspiring positive change. We believe that our efforts can make a difference and impact to bring about transformation in our communities. Along with providing good health to all, we also work towards doing our bit for the larger good and prosperity of humanity and our planet.



Our Infrastructure:

With more than 2 decades of expertise in open raceway pond microalgae cultivation, Parry has 250 acres of land at Oonaiyur & Saveriyarpuram and state-of-the-art microalgae harvesting and processing facility in Oonaiyur. Spirulina production is organic, and based on continuous cultivation. Dedicated Research and Development (R&D) facility located in Chennai, Tamil Nadu India is equipped for pilot scale microalgae cultivation and the infrastructure supports on-going research for identification of strains of microalgae that could potentially be used for a new product development.

Our Pristine Location:

- We manufacture our products in a remote and pristine expanse, with pure air, clear water, plentiful sunlight and ideal temperature.
- Our facility is located away from industrial, agricultural activities and human settlement, our microalgae are grown in an organic culture and the cultivation processes are completely natural, based on sustainable practices.



Product's Highlights

We take every possible action to ensure the well-being of our end consumers by delivering organically grown, enriching microalgae Spirulina, Chlorella and Phycocyanin in their purest forms. For the past two decades our R&D efforts have resulted in the state-of-the-art microalgae processing that helps to retain vital nutrients within the microalgae cells.

We are B2B company. We understand that our customers put their reputation at stake when they market and supply our microalgae to final end users. Therefore, each ingredient that goes into making the final product plays an extremely crucial role in enhancing the brand image and performance. We understand our customers' needs and are committed to earn the confidence and trust of our customers through our unparalleled drive for quality.



Our Quality Assurance System

Our microalgae:

- Comply with stringent norms with respect to heavy metals, pesticides, PAH, algal toxins etc.
- Do not accumulate heavy metals or attract other competing organisms
- Screened for over 500 pesticide residues (raw materials as well as finished products) to comply with EU organic norms
- Testing and analysis is done in ultra modern laboratory in accordance with Global Regulatory Standards.
- Externally audited for contaminants (PAH, Heavy metals etc) by renowned laboratories like Eurofins and Eurofins WEJ Contaminants GmbH lab, Germany, ensuring our products meet the food safety criteria and is 100% safe for consumption.
- Our quality assurance system offers complete traceability from raw material to final product.



Our Commitment





Our Global Safety Standards



Our products comply with USDA NOP, EU Organic and other standards such as Naturland. We uphold our promise of delivering goodness – healthiest strains of microalgae infused with vitamins and minerals, quality compliance with internationally recognized standards, and embarking upon sustainable actions for a better future.



Sustainability Highlights

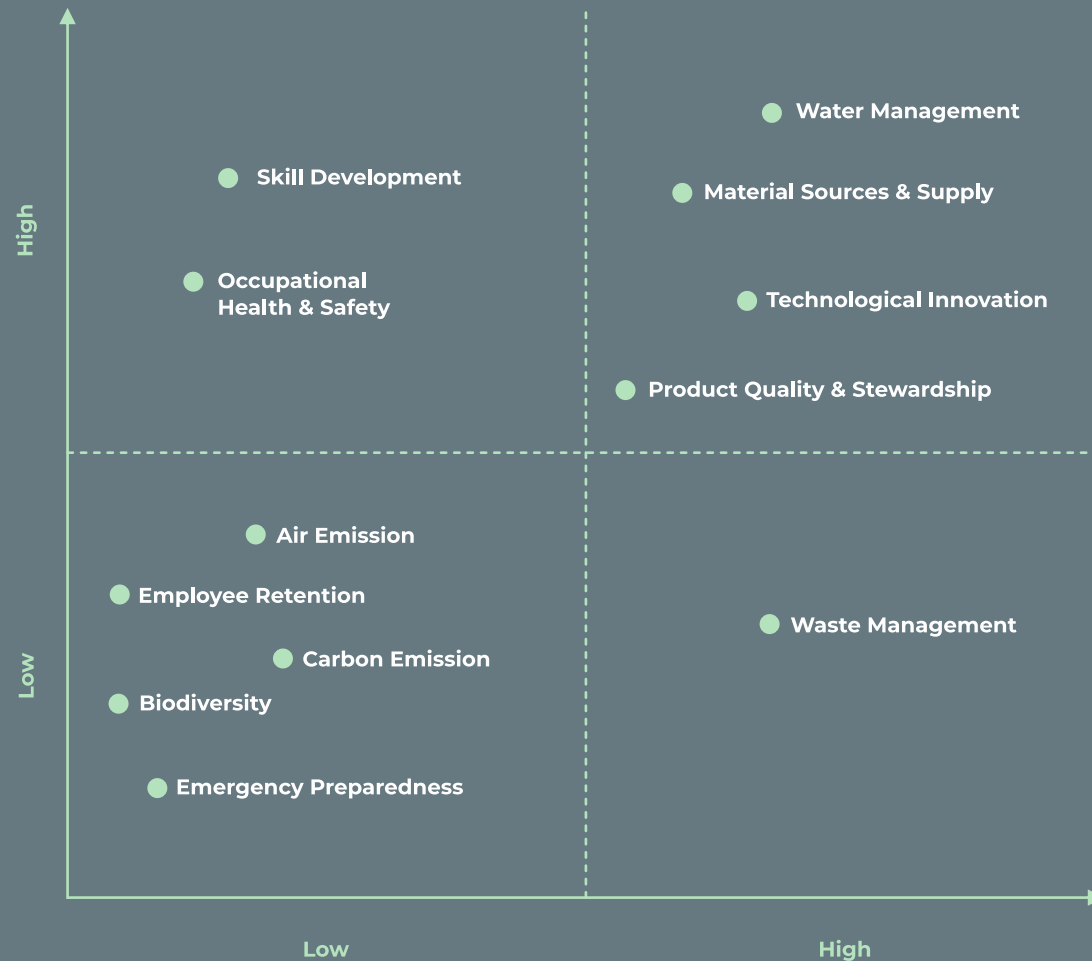
- Water is becoming scarce resource by the day; water conservation, rainwater harvesting and recycling of wastewater thus form an important aspect of our day-to-day functioning.
- We harness solar energy to its most optimum potential through solar panels so as to meet part of our process energy needs.
- We also host tree plantation drives as our contribution towards healthy ecosystem and biodiversity.
- We hire employees from local communities, impart necessary skills and provide opportunities of better livelihood.

Materiality assessment is intrinsic to our sustainability strategy, setting of goals and risk management process. We identify the potential Environmental, Social and Governance (ESG) issues that could impact our business and our stakeholders.

Materiality Assessment

We conducted a materiality assessment aimed at identifying sustainability challenges and opportunities across the business operations. The materiality assessment defines a spectrum of sustainability issues that reflect the concerns of our stakeholders. We carried out the materiality assessment to set goals & targets, and identify reporting priorities. From this we developed a sustainability program which has four key themes through which we aim to make the biggest difference possible: **product excellence, resource conservation and sustainable communities**

Stakeholders Impact



Business Impact



Sustainable Practices



Implementation of rooftop and surface rainwater harvesting system for 50 acre area to harvest about 134800 cum of rainwater every year.



Achieved Zero Liquid Discharge in our Oonaiyur factory by implementing world class wastewater treatment and recycling system of 450 cum/ day capacity



Facilitate reuse of water within production process through technological interventions like disc filters & ultrafiltration



Improved energy efficiency through LED luminaries, Variable frequency drives (VFD), harmonic filters and replacement of inefficient motors.



Installation of 235 kWp capacity solar power plant. 10% of energy required for microalgae harvesting and processing is being replaced with solar power.



Waste management through reduce, reuse, reprocess and recycle principles. Every month 180 T of pond waste generated is recycled as manure.



12500 large trees within plot area and organic, corporate farming activities



Sound social policies, safe workplace, about 80% of workforce is local.

Resource Conservation

We are in an era, where businesses need to be responsible towards environment and community. Parry Nutraceuticals, therefore has integrated sustainability into the very framework of its operations. Parry believes that the sustainability of its business is dependent on the well-being of communities it serves, the environment that provides resources, and the stakeholders who support business operations, provide valuable insights and feedback for continual improvement. With this in mind, the company will address the needs of the communities, the environment and the economy, thereby creating and maximizing shared value.



Microalgae cultivation is a water-intensive process and being water positive is the vision that drives us. We have established a set of principles and operational practices to guide our water usage, mitigate potential risks of water scarcity and ensure business continuity. Under these principles, we are working to utilize water efficiently, exploring ways to incorporate circularity, and engaging in partnerships to arrive at promising water-conservation solutions.

We are relentlessly striving to deliver the best quality microalgae while minimizing the environmental impact, by ensuring the fresh water used in our ponds is used optimally and recycled. We have a wastewater treatment plant within our factory that treats waste water which is recycled. Furthermore, we harvest rainwater and recharge the groundwater, which is made available for our production processes, and for the communities nearby.



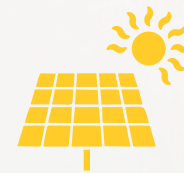
Water Resource Optimisation

Our corporate sustainability strategy for reducing water footprint:

1. Improvement in process technologies replacing batch production with continuous production of Spirulina has reduced our water footprint
2. Technological interventions like disc filters, ultrafiltration system, decanters for microalgae harvesting process have facilitated reuse of water within the production process and resulted in reduced water footprint.
3. Entire quantity of waste water generated in microalgae production process is recycled using state-of-the-art treatment facility consisting of biological treatment followed by ultrafiltration and reverse osmosis system.
4. Multiple Effect Evaporators (MEE) are installed to achieve Zero Liquid Discharge (ZLD). This has minimised the impact on environment due to wastewater discharge.
5. 100,000 m³ capacity lagoons have been set up to store harvested rainwater, the sustainable source of water. Part of the lagoons are equipped with liners. The facility is also exploring eco-friendly options of reducing water evaporation from lagoon.
6. Surface and rooftop rainwater harvesting system installed to harvest rain water from 50 acres area harvests 134,800 m³ rainwater per year.

Note * The above initiatives are for our Oonaiyur facility.





Energy Efficiency and Green House Gases (GHG) Reduction

Microalgae production is based on natural and renewable energy source. Microalgae help in fixing atmospheric carbon dioxide and help in reduction of GHG.

As a commitment towards sustainability we use clean energy and constantly strive towards achieving energy efficiency in microalgae harvesting process .

As a step towards sustained energy source, a 235 kWp capacity solar power plant is installed on lease model to cater partial energy use through clean energy. 10% of energy required for microalgae harvesting and processing is being replaced with renewable and clean energy.

This has helped us in reducing our carbon footprint.

To follow a path of sustainable and continuous improvement, two-fold approach is adopted by us:

Evaluation and Implementation

Detailed study of electricity consumption in identified areas,

Energy audits

Implementaion of energy efficient measures for sustained energy savings

Sustainable efforts are being made continuously for identifying energy saving projects and ultimately achieving lower carbon footprint.

- As an important energy efficiency initiative, almost 100% of the luminaries are changed to LED from FTL/ CFL/ halogen.
- Variable Frequency Drives (VFDs) are installed in a few equipment in process plants. Energy saving potential of the VFD is monitored based on which additional VFDs could be provided.
- Replacement of inefficient motors with energy efficient motors
- Harmonic filters are installed to improve the quality of power being used for microalgae processing.

Our energy management initiatives have contributed for improving quality of power supply and have helped us to bring down energy losses, associated costs and carbon emission footprint.

Resource Conservation Initiatives for Waste Management

Parry's approach to waste management starts with exploring areas for reducing waste followed by reusing, reprocessing and recycling waste. Since microalgae production is an organic process, the process waste generated is non-hazardous and has high nutritive and calorific value. Reduction in waste quantity protects precious resources, reduces emissions and prevents land pollution and contamination.

The utilisation of pond sludge as organic compost and process residue salts in animal nutrition, Parry Nutraceuticals is able to generate revenue from salvaged resources.



We follow the 4R principle to manage waste sustainably. Some of our initiatives are in feasibility stage and will be implemented in the near future:

Reduce

We consciously avoid single-use of resources and use our resources responsibly.

Reuse

We reuse resources wherever possible. eg. Pond water is reused after microalgae harvest, Spillages in microalgae processing will be used in animal feed.

Reprocess

Our waste is reprocessed to recover salts. These salts will be used in animal nutrition.

Recycle

Process waste is recycled as organic compost and as animal feed. We are conducting experiments to use pond sludge as biomass briquettes for boilers or as fertiliser for community farming.



To support 4R principles we motivate collection, storage, reuse, recycle and disposal of waste. We also promote and support educational and awareness programs around waste management.

We strongly believe that waste is sustainable and greener resource and needs to be managed responsibly.

Through collaboration and validation, we are taking initiatives to recover value added products from waste:

- Around 180 Tonnes of waste is generated from algal production each year, which is rich in salts. Institute of Animal Nutrition, Tamil Nadu Veterinary and Animal Sciences University, Chennai has helped us to analyse the waste and through research confirmed that it is safe to use the salt containing waste as animal licks. We are working towards its implementation.
- Waste from Spirulina ponds is rich in organic content. Currently 180 tonnes per month pond waste is used as manure for tea plantation of Parry Agro (division of Murugappa group)
- We are constantly working on sustainable packaging. Plastic packaging is replaced with aluminium based packaging.



Sustainable Communities

Community Engagement - Sustainable Farming

With rising awareness on the risks associated with the usage of synthetic agro chemicals, there is a shift from traditional agriculture to organic farming that strives for resource sustainability and enhancement of soil fertility.

For over three decades, Parry has been cultivating microalgae that are 100% safe, organic and devoid of any synthetic or genetically modified ingredients. To meet the need for organic produce of the nearby community, Parry decided to encourage organic farming within its factory premises in Oonaiyur. What's best is the fact that the bio-waste generated in cultivating the microalgae is converted to nutrient-rich organic fertilizer to nourish the vegetables grown.

The employees participate in organic farming and the produce is distributed to the locals at subsidized prices.

Apart from organic produce, corporate farming has increased productivity of employees, reduced stress and have provided healthy eating choices.



Community Engagement - Greening the Planet

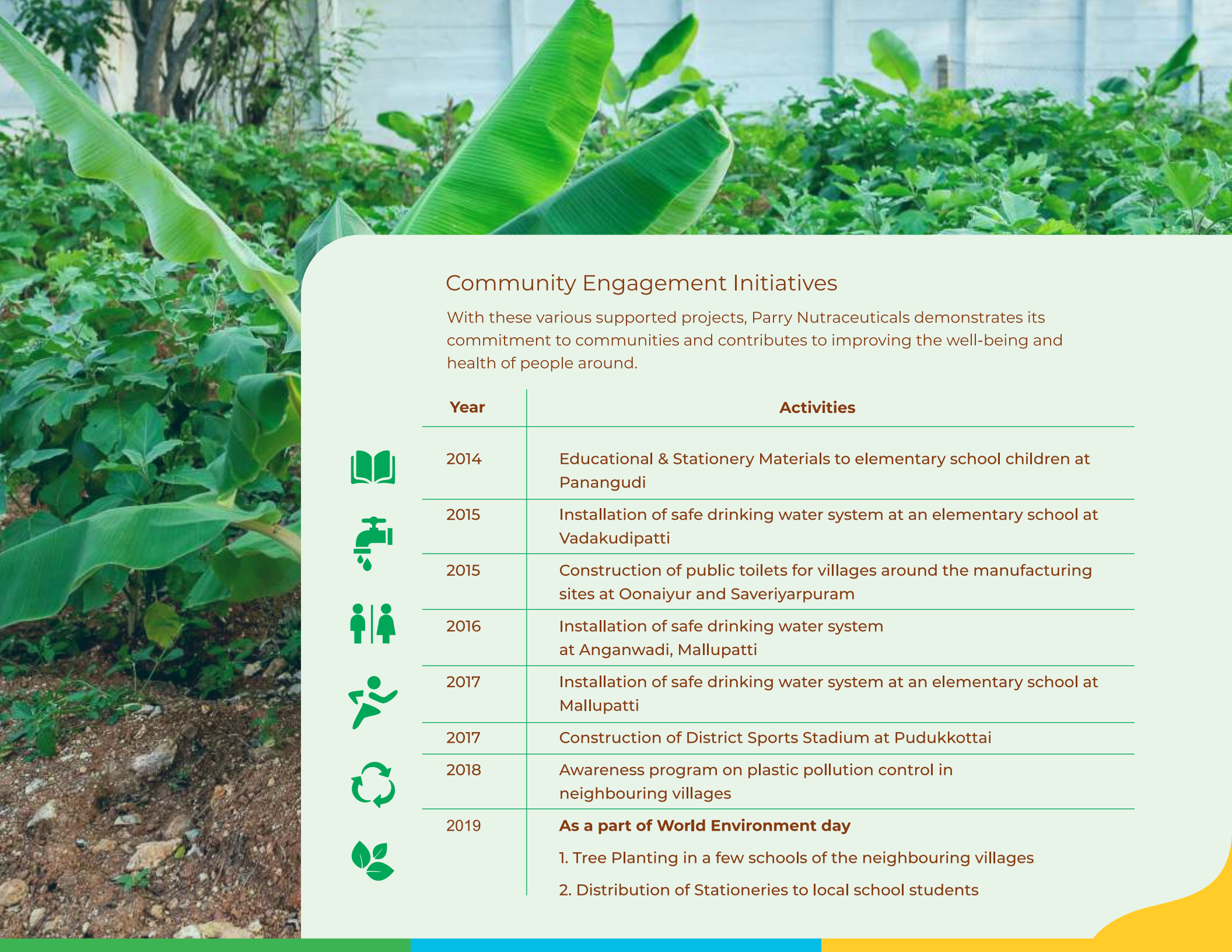
The importance of trees in purifying air, reducing global warming, preventing soil erosion, conserving water, maintaining the ecological balance, providing natural resources such as medicines, habitats for faunal species, providing nutrients to the soil is well known. Increasing the green cover by tree plantation is one of the easiest yet effective measures towards reducing imbalance created due to man made activities.

Team Parry decided to contribute towards making the planet greener through corporate volunteering tree plantation drive. The employees got together to:

- Carefully select saplings that are of minimum 3 to 4 feet in height. Such saplings are easier to nurture and grow
- Choose native species for plantation which includes Pongamia, Tamrind, Mango, Neem

A new philosophy that everyone at Parry now lives by, got sowed on this plantation drive day - adopt a sapling and nurture it into a tree.

Live green!



Community Engagement Initiatives

With these various supported projects, Parry Nutraceuticals demonstrates its commitment to communities and contributes to improving the well-being and health of people around.

	Year	Activities
	2014	Educational & Stationery Materials to elementary school children at Panangudi
	2015	Installation of safe drinking water system at an elementary school at Vadakudipatti
	2015	Construction of public toilets for villages around the manufacturing sites at Oonaiyur and Saveriyarpuram
	2016	Installation of safe drinking water system at Anganwadi, Mallupatti
	2017	Installation of safe drinking water system at an elementary school at Mallupatti
	2017	Construction of District Sports Stadium at Pudukkottai
	2018	Awareness program on plastic pollution control in neighbouring villages
	2019	As a part of World Environment day 1. Tree Planting in a few schools of the neighbouring villages 2. Distribution of Stationeries to local school students

Sustainable Development Goals

We are aligning our key themes with the global Sustainable Development Goals to create a significant impact on our business as well as people and planet.

The UN SDGs are the World's collective call to end poverty and restore our planet's life support systems by 2030. Developed in consultation with more than 5 million people from 88 countries, the UN's 17 Goals aim to tackle the world's toughest challenges.

We want to play our part to deliver these goals.

We join a global community of people in government businesses and civil society around the world working towards a sustainable future.

We have selected targets for four of the goals to focus on as we develop our sustainability strategy: They cover themes central to our business impact.

SDG 03 Good health and well-being

SDG 06 Clean water and sanitation

SDG 07 Affordable and clean energy

SDG 12 Responsible consumption and production



SDG 2 Good health and well-being

Nutrition for good health aligns with the UN SDG #2 – Zero Hunger. The targets for the goal include ending hunger, achieving food security and improved nutrition. Our Microalgae are purest traces cultivated sustainably in the most pristine environment that vitalizes the end-consumers.



SDG 6 Clean water and sanitation

We are treating and recycling our wastewater to prevent pollution of water bodies. Our Zero Liquid Discharge (ZLD) facility is helping us to promote maximum recycle of water and reduce freshwater demand. Reduction, reuse and reprocessing of organic waste helps us to eliminate dumping and protect the environment.



SDG 7: Affordable and clean energy

Use of clean energy systems and energy efficient process is a key to sustainable economic development. Nearly, 100% of the luminaries are changed from FTL/ CFL/ halogen type to LED. We have also replaced old inefficient motors. We have installed a solar power plant of 235 KWp on lease model.



SDG 12 Responsible consumption and production

Our microalgae require ample sunshine and water to grow. Freshwater is a critical resource throughout the World. We are therefore continuously working on minimising our water footprint and reducing freshwater consumption by reusing as much water as possible in our process, recycling treated wastewater and replenishing groundwater through rainwater harvesting. We are taking actions on reducing post harvesting wastage and reducing waste sludge generation from ponds by optimising raw material addition.

Sustainable Communities

At Parry we envision to grow, to get bigger and better, but not alone. Our success is not just limited to our profits but is associated with the happiness, satisfaction, and an inclusive growth of all our stakeholders. Our key stakeholders are our employees, our customers, end consumers, regulatory bodies, service providers, and neighbouring communities. We provide for safe work environment for our employees and conduct our business with social responsibility by strictly following regulations related to fair labour practices, wages and human rights.

Our customers are happy as we provide purest microalgal strains. We ensure healthy lives and promote well-being for all ages by harnessing the power and potential of microalgae.

We also ascertain that the end consumers are satisfied after consuming the products fortified with our healthy microalgal strains.

We invest in empowering the community to be self reliant

We intend to excel in our efforts with a focus on the four Sustainable Development Goals that are central to our business impact.



The Road Ahead

Through the medium of our sustainability pillars, we intend to expand our existing plans and sustainable practices. We will make every effort to strengthen the practices, reduce our footprints, improve environment & meaningfully engage with the stakeholders.



A division of E.I.D. - Parry (India) Ltd.,

Dare House, 4th floor, No. 234, N.S.C. Bose Road, Chennai 600001, India.

✉: enquiries@parry.murugappa.com [in](https://www.linkedin.com/company/parrynutraceuticals) : [linkedin.com/company/parrynutraceuticals](https://www.linkedin.com/company/parrynutraceuticals) www.parrynutraceuticals.com