

Improved Nutrition Through Fruit Gardens



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Introduction

Bihar is the third most populous state in India and is home to 47 million children. While significant progress has been made in recent years with regard to child health in the state, the data from the latest National Family and Health Survey (NHFS-5) indicates that the picture continues to be grim.

Around 41% of children suffer from low weight with respect to their age and about 63.5% of children in the age group of six months to five years are anaemic.

The situation is similar in the neighbouring state of Jharkhand. According to the Comprehensive National Nutrition Survey conducted in the state during March 2017 to July 2017, 36% of children under five years of age are stunted and 45% are underweight. This effectively suggests that every second child in the state is stunted and underweight. Further, 70% children in Jharkhand are anaemic.

In order to tackle this persisting issue of malnutrition while also simultaneously addressing the challenge of climate change, Humana People to People India and Foundation Audemars Piguet Foundation reinforced their enduring partnership through the Improved Nutrition Through Fruit Gardens (INFG) project.

The project commenced in January 2019 and works through 5 Government Teacher Training Institutions – 4 in Bihar and 1 in Jharkhand – by establishing a model nutrition garden in each of the District Institutes of Education and Training (DIETs). Each of these nutrition garden comprises a minimum of 100 fruit trees. Simultaneously, 15 primary schools in the catchment area of each DIET are also included in the project, wherein, each school has a nutrition fruit garden of at least 20 fruit trees.

The project is also aligned with the United Nations Sustainable Development Goals, directly contributing towards achieving the targets in the goals 2, 3, 4, 13 and 15.

This coffee table book aims to take the reader through the joyful journey of achieving these nutritional milestones through the unrelenting efforts of the project team, the DIET student-teachers and faculty members, the primary schools' staff, the community members, and most importantly, the indefatigable spirit of the young school students, whose dedication and resoluteness for a greener and healthier tomorrow has been the most gratifying achievement of this intervention.

We hope you, as a reader, are able to perceive their indomitable energy as you flip through the pages that follow.

Instilling values in future teachers



The INFG project activities commenced with the involvement of the student-teachers at the five intervention DIETs. As future primary school teachers in the schools of Jharkhand and Bihar, it is imperative to instil the values and knowledge about nutrition and climate change in the student-teachers at these institutes.



Student-teachers at a DIET in Bihar presenting teaching-learning material developed for the environmental education classes.



An environmental education session at a DIET in Bihar on the World Earth Day.



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Most of the students enrolled in the State-run schools come from the lower socio-economic strata of our society. While the Government's initiative of providing midday meal to all the students goes a long way in ensuring proper nutrition to all the primary school students, we find that some nutritional gaps still remain among these children, as is evident from various contemporary studies. In the light of this fact, the INFG project is a welcome move to compliment the midday meals and ensure optimum nutrition for children. There is an urgent need to scale up such projects in our country.

Dr. Naval Thakur
Senior Lecturer
DIET Patna, Bihar



Student-teachers of a DIET in Bihar participate in a community sensitisation rally under the INFG project.



Student-teachers of DIET Patna participate in a community sensitization rally organised under the INHG project in Bihar.





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I come from a rural background. After learning about the INFG project being implemented at the DIET, I felt motivated to contribute to this initiative in my own way. I brought a sapling of a sweet and nutritious variety of mango, called the Amrapali variety, from my village and planted it in our DIET campus during one of the plantation drives. I feel proud to be able to contribute in improving the nutrition level among the children of my state.

Sunil Kumar
Student-teacher
1st Year
DIET Patna, Bihar



Sunil Kumar, a student-teacher, stands next to the Amrapali mango tree he planted at the DIET Patna campus.



Student-teachers of DIET Patna, Bihar, plant a sapling in the front yard of the Girls' Hostel in the DIET campus.



Under the project, various informative and motivational messages have been painted in the intervention facilities. A message in one of the primary schools in Bihar reads: 42 fruit trees have been planted in this school under the INFG project. The objective of this plantation drive is to encourage the school students and community members to become self-reliant towards their own health and that of the environment. These trees are being maintained by the joint efforts of the HPPI project team, school students and teachers and members of the Water Committee.



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Teachers play a critical role in influencing the behaviour of the communities they work in. As such, my training at the DIET and my involvement in the INFG project has equipped me with the tools and aptitude to ensure that I can improve the nutrition levels of the students I work with through knowledge sharing.

Lovely Kumari
Student-teacher
2nd Year
DIET, Patna, Bihar



Student-teachers at a DIET in Bihar clear the weeds from the nutritional fruit trees garden established in their DIET campus under the INFG project.



A bird's eye view of the nutritional trees garden established at DIET Patna, Bihar, under the INFG project.

Inspiring the next generation



Malnourishment is a veritable scourge that directly impacts the children and their ability to realise their true potential. Likewise, climate change is a quickly unravelling phenomenon that will most harshly impact the coming generations. The INFG project ensures that the young students are equipped with the right tools and knowledge to fight these major contemporary challenges.



Plantation of trees in a barren land impacts the entire ecosystem of the area. Here, a school teacher explains the presence of certain worms that have come to inhabit their fruit gardens in one of the intervention schools.





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The INFG project being implemented by HPPI in our school is a very welcome initiative. It is a holistic intervention encompassing educational, nutritional and environmental development of the region and the children it works with. A variety of fruit trees have been planted here which the children of my school are already benefitting from.

Umesh Kumar Yadav
Headmaster
Government Middle School
Hariharpur, Vaishali, Bihar



An informative artwork painted on the school wall in Hariharpur, Bihar, listing out the various components of a balanced diet.



Students of a Government Middle School in Vaishali, Bihar, stand with the fruit tree saplings during a tree plantation drive.



A school teacher in one of the project intervention schools explains the various parts of a tree to his students in Vaishali, Bihar.



Fruit trees planted and tagged in a Government school campus under the INFG project.



A Government school teacher explains to her students the various parts of a plant under the INFG project.







Two students of a Government Primary School in Patna, Bihar, plant and water a fruit tree sapling under the INFG project.



Two school students in one of the intervention schools under the INFG project participate in a tree plantation drive organised at their school in Vaishali, Bihar.

Nutrition and environmental education



An integral part of the INFG project has been the dedicated environmental education classes for school students to empower and inspire them with correct knowledge about the fruit bearing trees they plant, and the broader implications of climate change. Art activities are part of these educational components.



Since the launch of the INFG project in the intervention schools, teachers have found innovative ways to use everyday kitchen items including fruits and vegetables as teaching-learning material to help instil deeper understanding of nutritional values of such items.

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A DIET teacher-educator conducts an environmental education class at a local primary school in Bihar.



Under the project, primary school students were provided special books on health and environment to raise awareness on optimum nutritional intake and complement their environmental education classes.







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The INFG project is a much-needed intervention in a state like Bihar. Most children coming to our Government schools come from marginalised families and hence, the fruit trees planted in the schools are a welcome incentive. Alongside boosting their nutrition level, such projects also contribute towards improving the enrollment in schools.

Pankaj Kumar

Headmaster

Government Middle School

Qutubpur, Vaishali, Bihar



A student in a Government Middle School in Bihar responds to a query during her environmental education class conducted under the INFG project.



Under the INFG project, school students are encouraged to express their imaginations, perceptions and experiences of climate change through the medium of arts, thereby, helping them to explore their creativity while also gain more profound understanding of the challenge in an interactive manner.





Government Middle School students pose with their artworks on the theme of climate change produced in their environmental education class.





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The INFG project has been running in my school for past two years. We have planted trees such as mango, jackfruit and lychee. Through this project, I learnt about the harmful effects of chemical-based fertilizers on our health. We have been using organic fertilizers in the trees we have planted in our school campus. From this year, we have also started enjoying the fruits of these trees which we eat after the midday meals.

Komal Kumari

Student, Grade-8

*Government Middle School, Andhra Chawki,
Patna, Bihar*



Students of a Government Middle School in Bihar pose with the saplings which they have planted and are taking care of under the INFG project being implemented in their school.





The class visiting the fruit gardens is a common sight in the INFG intervention schools. Here, a school teacher explains the different parts of a tree to his curious students in the school garden.

Sustainability through solidarity



Community involvement is a vital imperative to make any movement sustainable. Under the INFG project, the Water Committee – comprising selected school students – was formed at each intervention school to secure ownership of the planted trees. Further, frequent sensitisation drives in the communities were conducted by the project teams. The monthly parent-teaching meetings organised at the schools have been another key platform to help scale-up and drive home the significance of the intervention among the community members.



Rally as a form of community sensitisation drive is a common and effective element of the INFG project. Rallies provide a platform to young schools students and trainee-teachers to express their opinion about the issues of malnutrition and climate change to the communities they work with.







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I have been a regular visitor to the DIET campus for many decades now. There is a perceptible change in the campus since the INFG project was launched here. The project has helped immensely in turning this DIET campus into a green campus. The trees have already started bearing fruits which the student-teachers are able to benefit from.

Ajay Kumar
Senior Consultant,
State Council of Education, Research and Training,
Bihar



Mr. Ajay Kumar, Senior Consultant, SCERT, addresses a group of parents during a parent-teacher meeting organised at a school in Bihar to inform them about the achievements and importance of the INFG project being implemented at the school.



Water Committees formed under the project play a major role in ensuring the sustainability of the intervention. The primary responsibility of the Committee, comprising school students, teachers and community members, is to ensure that the trees are taken care of even after the completion of the project on December 31, 2021.





Community sensitisation drives under the INFG project include door-to-door visits as well as rallies organised by the school students with the help of the school faculty and the INFG project team.



The INFG project leader conducts an information session during a parent-teacher meeting at a Government school in Bihar.

Nurturing and grooming



While most tree plantation drives are conducted in earnest, it has been found that nearly 70% of the planted saplings do not survive the first few weeks after being planted due to various natural and man-made causes. The successful implementation of the INFG project required that the saplings are well looked after to ensure that they bear fruits. This was achieved through the active participation of the participating student-teachers, school students, faculty members and the nearby communities.



*A DIET student-teacher ploughs out the weed growing around the planted fruit trees at the DIET campus.
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HPPI teacher-educators and DIET student-teachers get together to clean the weeds from the fruit garden established in the DIET campus in Patna, Bihar.





School students and community members come together to set up a bamboo fence around the newly planted fruit tree saplings in their school premises under the INFG project.

Challenges



Bihar and Jharkhand are prone to seasonal flooding during the months of monsoon. The INFG project was not spared this annual natural calamity. In order to ensure that sufficient number of trees survive the deluge and bear fruits, the project team, in anticipation, planted substantially more trees in the intervention districts.

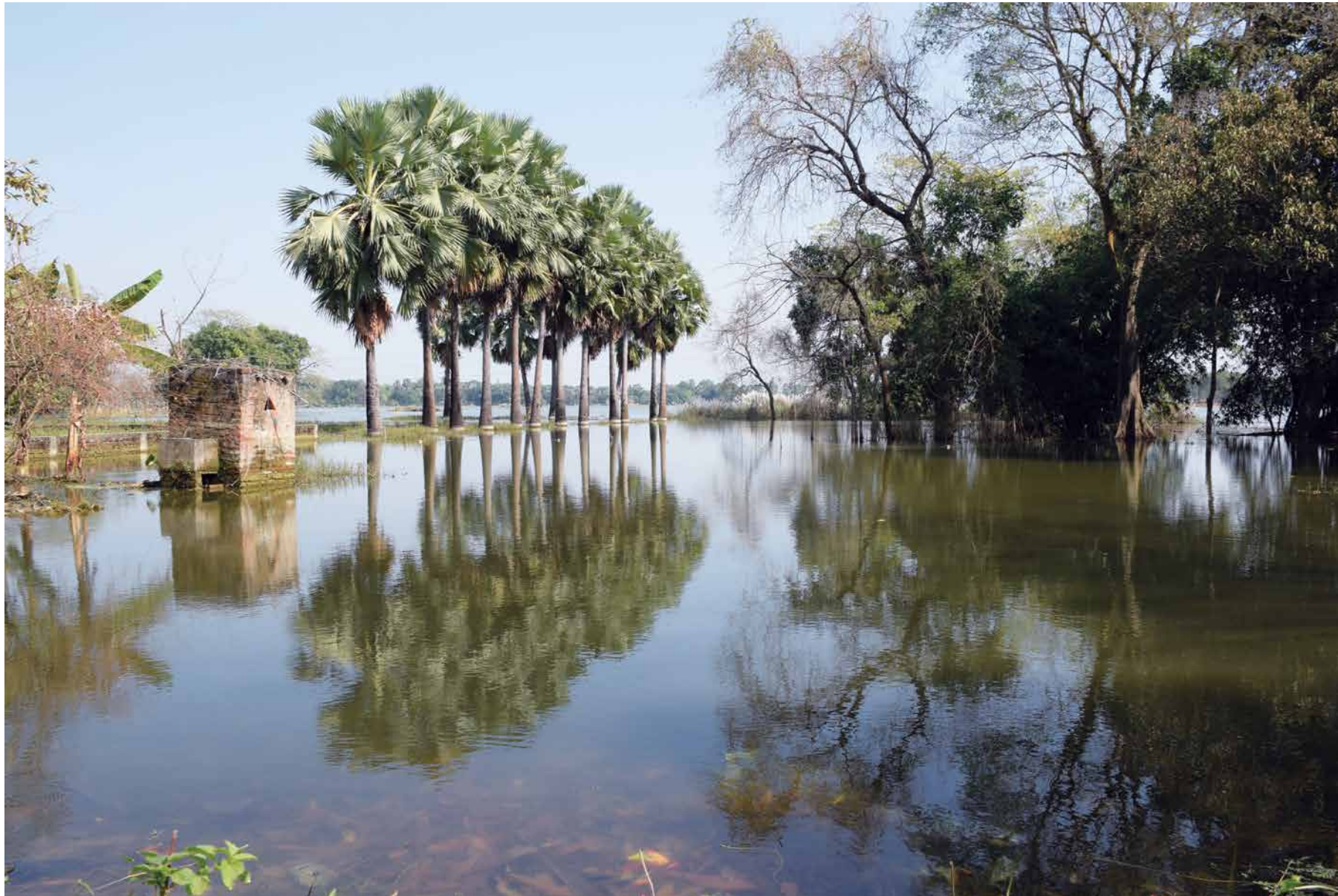


The flooded precincts and surroundings of a part of the Government Middle School in Qutubpur, Bihar. Three light green fruit trees planted within the boundary of the school can be seen in the picture. With the area flooded for months, the survival of these trees remains precarious.



An aerial view of one of the DIET campuses shows the planted saplings completely submerged in the flood waters after the monsoon rains.
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Damaged trees in a flooded section of one of the intervention schools in Bihar.*



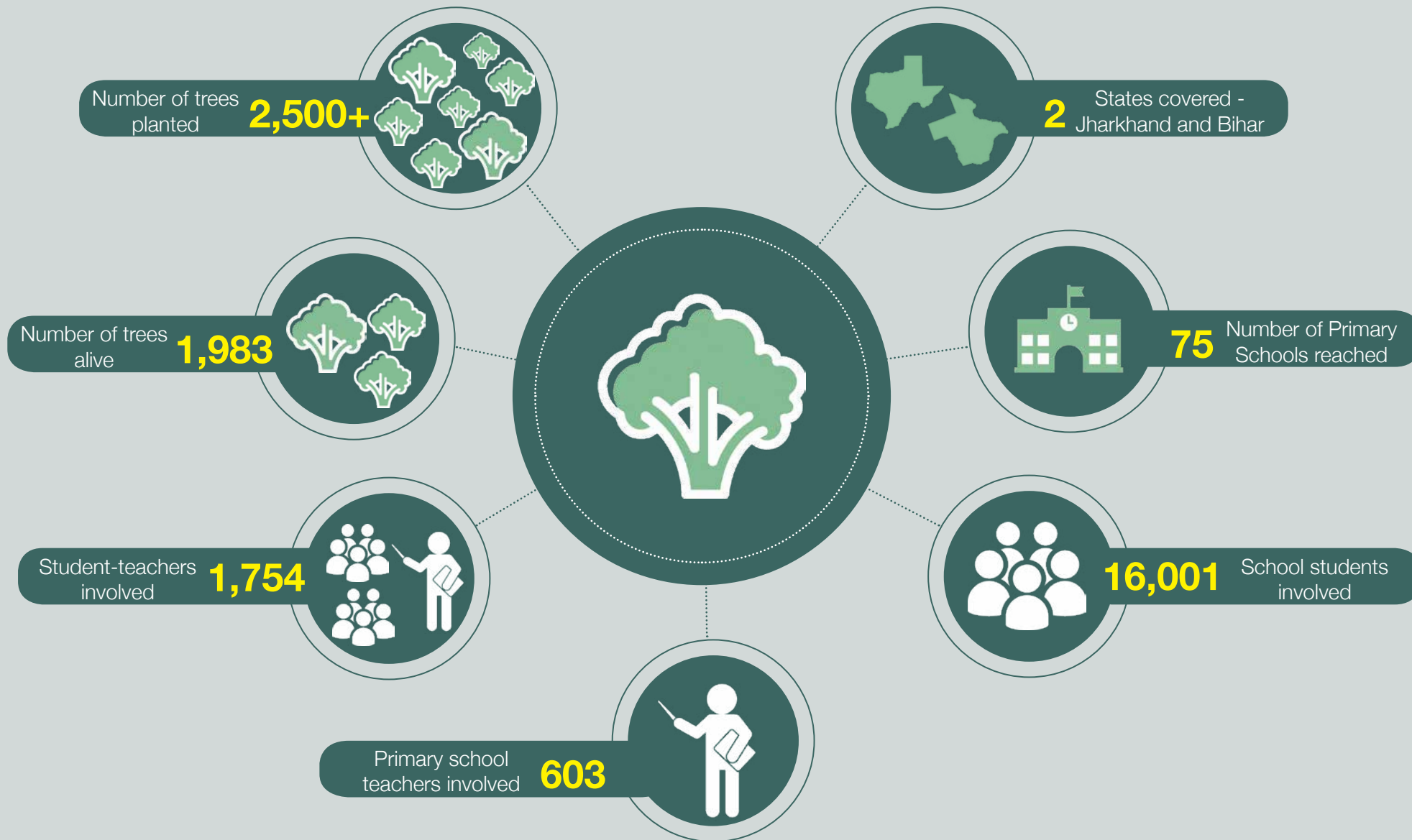
The idyllic aesthetics of the image belie the hardships brought about by the floodwaters for the local communities with their crops destroyed, schools shut and access cut-off during the monsoon months.

Visible sprouts of inspiration



During the COVID-19 lockdowns across the country, when schools were closed to stop the spread of the infection, Sahil Kumar, a grade 6 student of Government School, Andhra Chauki, Bihar, took it upon himself to visit his school with his brother and water the saplings in the garden set up by him and his classmates. The school being a stone's throw distance from Sahil's house, is readily accessible.

Sahil, who is also a member of the Water Committee and Bal Sansad (Child Parliament) at the school, took the initiative to take care of the plants and keep them alive in spite of the school being shut for months. His motivating efforts prove that efforts towards holistic education go a long way in instilling a sense of responsibility from an early age.



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