

Swati teaches her
village to read...

Stories of curiosity
and creativity!

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Foreword

As a friend of Agastya, it gives me great pleasure to write the Foreword for this volume. The pleasure is doubled as the topic brings to sharp focus the gender divide, the gender gap and the enormous gender potential. These true stories are special for me as I am an enthusiastic believer in the power and potential of change.

This change is possible when people of all genders can participate and contribute as equals in different spheres of activity. I have noticed often how girls are equally, if not more, passionate about the activities they are part of in their school years. When they are exposed to Science and given equal opportunities and exposure to academic resources, these girls excel. Yet, there is a dearth of role models and opportunities at higher levels, which would truly help in translating the potential of girl students to real possibilities.

The stories in this volume are inspirational and will surely help in making it possible for girl students to pursue their passions and dreams. This volume will also go a long way in changing perceptions in non-urban communities in India about educating girl children and giving a glimpse into the inherent transformation that education can bring. In this regard, books like these can have cascading effects, whose impact will be felt for a long time to come. I would like to commend Agastya Foundation for its wholesome vision and continued efforts in transforming school education in India.

Sujatha Ramdorai

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C. Sushmitha

Class 9, AP Model School

Becoming Part Of The Family

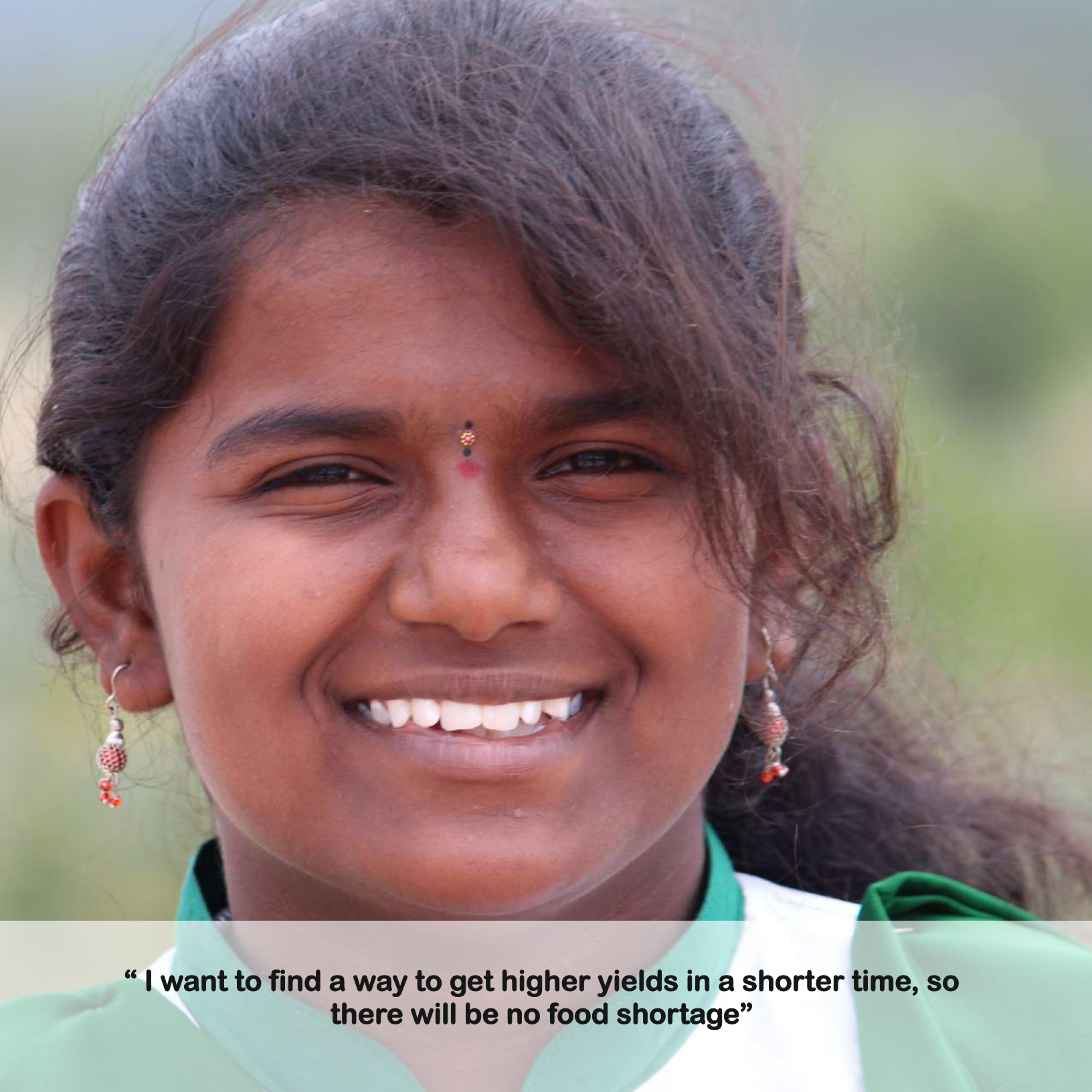
In Sushmitha's family, not just heirlooms but Agastya too, is being passed on from one generation to the next! It is quite literally, a part of Sushmitha's family – her brother works at Agastya, while an older cousin is an Agastya Master Trainer! It was her cousin Sagar who was responsible for introducing Sushmitha and her brother to Agastya. Sushmitha remembers how ecstatic she was when she first came to Agastya in class 3. "I feel free. We have freedom in Agastya. Teachers don't scold us here. They explain things in a very-easy-to-understand way."

Sushmitha proudly tells us that she and her friend Pavani have come up with an idea that will help protect people who travel by buses which sometimes catch fire. On these buses, the windows cannot be opened easily. The girls' solution is to create a water tank equipped with sensors which can be placed on top of the bus. Should any part of the bus overheat, the sensors will be activated and set off an alarm to warn passengers, while the tank releases water into the bus. Windows will open automatically, allowing people to escape, thus saving their lives. After Agastya's intervention, she has started off on the path of transformation and has never looked back since! Knowing that people can benefit just by her sharing knowledge with them has helped her open up. Sushmitha used to struggle to do well at school. After being exposed to Agastya instructors, she says, "I now have a hold on the subject and I have gained a lot of confidence."

Sushmitha's sense of social responsibility goes way beyond her age of 14 years. She says that people in the village practice child marriage and many other negative things. "I am going to tell them that this is bad, and I want to make them aware of it." Once she studies and becomes an IAS officer, she feels this will enable her to put a stop to such bad practices. Thanks to Agastya's support, Sushmitha is confident about becoming an Indian Administrative Services (IAS) officer. "I will be successful because of Agastya's encouragement," she says.

"I will be successful because of Agastya's encouragement"

Sushmitha, for whom being a part of Agastya runs in the family, has found an ingenious method to save people from buses that catch fire.



“ I want to find a way to get higher yields in a shorter time, so there will be no food shortage”

Higher Yields In Shorter Time!

Meet Priyanka- the girl who sowed the seeds of a small scale Green Revolution in her own village! Priyanka was selected to apply for the IRIS competition for her project to find the fastest rate of germination of different seeds when treated with organic fertilizers. She carefully selected seeds that have economic value in India such as ragi, mustard, tomato and beans, and put one hundred of each in separate petri dishes and plastic trays. She then prepared different solutions using leaves of papaya, custard apple, Lantana camera and Argemone mexicana. She powdered the dry leaves of each separately, and soaked it in a beaker with water overnight with each seed sample being treated with different liquids. Once the seeds germinated, they analysed the data and found the Lanatana camera fresh leaf extract had the most effect. She proudly presented her brain-child to the visitors of Agastya, who had come all the way from the United Kingdom. Though IRIS did not select her project, the whole process was so much fun that it is still Priyanka's proudest achievement.

When asked why she chose such a project Priyanka said “India is a farming country. We are very dependent on agriculture, but nowadays we don't get high yield. So I want to find a way to get higher yields in a shorter time, so there will be no food shortage”. She submitted the same project to the Google Science Fair when she was in the tenth standard and her project was declared among the top ninety in the world and top thirty in Asia.

During her first visit to Agastya, Priyanka was astonished to see the facilities and labs with so many experiments. In the Biology Lab, she was shocked to find how children can inherit sickness from their parents when she did an experiment with DNA. Priyanka says she would be a different person without Agastya. Her ambition is to become an IAS officer. Her family is extremely supportive of her dream with her father even telling her that she can study whatever she wants and that he would always be her support.

K. Priyanka

Class 10, Zilla Parishad High School

CREATIVITY

Young Priyanka seeks to boost India's agrarian economy through her own successful experiments!

M. Priyanka

Class 9, Zilla Parishad High School

Of Floods And Floating Houses

What do you do when you get to know that there is a flood coming your way? Run? Escape? Priyanka, a class 9 student, has other ideas. Dismayed by the news in print and television media about floods in coastal areas, she worked hard to come up with a suitable solution. Priyanka's family is from the coastal district of Matarlapalli in Andhra Pradesh, an especially vulnerable location since in coastal areas, there are rampant floods. After much thought, Priyanka came up with an idea for what she calls an "Amphibian House." She described what she had in mind to a school teacher and Agastya instructors, who encouraged her.

Priyanka began to design the house under the guidance of her Agastya instructors. The architectural logic of the "Amphibian House" was inspired by the versatile nature of amphibious creatures like snakes and frogs, which can live on land and in water. Priyanka developed a working model of the house. To begin with, she created a bed of plastic straws on a plastic tray, upon which she placed a house made out of thermocol. She then poured water into the plastic tray, and as the straws began to fill with water and expand, they pushed up against the thermocol house, forcing it to rise with the water level. Priyanka's Amphibian House model won the INSPIRE award-exciting news that she was elated to share with her parents. Exposure to Agastya has helped this Young Instructor Leader(YIL) to improve her grades. She also credits the YIL programme for developing enough confidence and courage to speak without inhibition in public.

Priyanka's goal is to become a District Collector so that she can take serious steps to curb illiteracy. "When I was in the sixth standard, there were 54 students in my class. Now there are only 34, because the remaining children have all gone to work in factories", she says. Once she becomes a collector, Priyanka would tout the advantages of education and work hard to convince parents to send their children to school. She would distinguish between children who are quitting on their own and those who are being forced to quit by their parents, so that she tailors her 'Back to School' message accordingly.

Young and dynamic, Priyanka has taken it up on herself to save her village from floods and illiteracy.

"I believe that children should be required by the law to study up to class 10"

R. Vedavathi

Class 10, Zilla Parishad High School

Taking A Stand

It takes effort change an entire village's notions. But Vedavathi is resolved. At Agastya, Vedavathi learned that most superstitions are false. For example, in her village there is a superstition about sugar which says, 'if you eat more sugar then you will get sugar (diabetes).' Teachers at Agastya explained to her that sugar itself can't cause diabetes, and that it takes a combination of different factors to get sick. Worried about the number of trees being cut down in her village, Vedavathi explained the ill effects to her parents who then passed on Vedavathi's message to their friends and word slowly spread. A group of concerned citizens then took up the matter with the *panchayat* Secretary, who was forced to call a *panchayat* meeting. At the meeting, the Secretary explained Vedavathi's stand, but also augmented her request by asking people to plant more trees. After the meeting, each of the 30 households in the tiny hamlet planted at least one tree. Vedavathi was happy because she felt vindicated—the townspeople believed her, and took her seriously enough to plant trees.

Vedavathi can still remember the excitement she felt on her very first trip to Agastya, four years ago when she actually experimented on her own in the Physics Lab. In the Art Lab, she has learned how to create models and objects using recycled material. Vedavathi has even exhibited her work at a Science Fair! She learned about 3D animation at the Media Lab and created computerized animations that looked just like clips from the popular cartoon *Chhota Bheem*. Her proudest moment was when she got to demonstrate how to use drawings in the 3D animation process, to her teachers. The succinct demonstration earned her great praise from the headmistress.

Vedavathi comes to school regularly, just so that she does not miss a trip to Agastya! When she grows up, she hopes to become a teacher and follow Agastya's teaching methodology because, unlike her schoolteachers who focus on text books, Agastya instructors use models to illustrate their points and, most importantly, do not punish students if they answer incorrectly.

With words as her weapons, Vedavathi is successfully defeating two evils beleaguering her village- superstition and deforestation.

"I like going back from Agastya and dispelling people's belief in superstitions by explaining the science behind their beliefs"

B. Shameema

Class 8, Kasturba Gandhi Balika Vidyalaya

Doctor In The Making, Artist At Heart

In Shameema, waste material brings out creativity! This 14 year-old always had a weak spot for art. It is no wonder then that when she first visited Agastya, staff members decided to introduce her to the Art Lab. From that point on, her love of art has taken on a life of its own.

Shameema was impressed by the artwork which was made out of reused material like plastic and paper. She then realized something, "In my village, everyone - including me - throws waste material out and it pollutes the environment". Pioneering the idea of 'best out of waste' in her village, today, she would rather use waste material when she is creating something. Using discarded cardboard boxes, Shameema created a festival calendar that mentions all the important public holidays and school activities. Now, all of her friends own a similar calendar.

Shameema deplors the fact that government schools turn a blind eye to art. She believes with all her heart that art cultivates the imagination, which in turn increases one's intelligence. "Any artist's imagination is very important because, without an imagination, we are all zeros," she points out. Shameema acknowledges that Agastya's Art Lab increased her own imaginative capacity. Here, Shameema also learned about the importance of observation and concentration. "Every day, I would simply look at things, but I would not observe them. I would always forget whatever I saw, and that is because I would not make the effort to understand things around me," she explains. Her artistic skills hugely benefitted from this new piece of advice. In the Art Lab, she has developed a better grasp of perspectives and colour combinations. Nowadays, she pays careful attention to details such as colour and structure when she draws plants and stones. She has also applied these new insights to her regular studies. "Art is very helpful when it comes to drawing diagrams in biology or even maps," she says.

"Before coming to Agastya, I liked art. But now, art is my life," Shameema reveals. While she aspires to become a doctor, art, she says, would always occupy a special place in her heart.

In today's world where art is fast losing patrons, Shameema is making sure it is given its due importance, and how!

"Before coming to Agastya, I liked art. But now, art is my life"

G. M. Jeevitha

Class 9, Kasturba Gandhi Balika Vidyalaya

Nurturing And Fertilising Young Minds

How easy is it to bring about a tectonic change in one's personality? Jeevitha tells us: once very shy, Jeevitha did not know how to interact with her peers. However, today she actively seeks out and tutors girls from her school who are weak in their studies. Whatever she learns at Agastya, she shares with her schoolmates- as Young Instructor Leaders (YILs) are encouraged to do. When presented with an occasion, she also conducts seminars and holds question-and-answer sessions with the entire student body in their sports field. As she puts it, "75 percent of my courage and confidence comes from Agastya and the other 25 percent from my teachers' support and encouragement."

Jeevitha's passion for transformational pedagogy extends to her community as well. She noticed that people in her village were falling sick often, and lung diseases seemed to be on the rise. Wondering if it had anything to do with the fact that the air was thick with pollution from the constant flow of vehicles and that waste water from the nearby sugarcane factory, she along with three of her YIL friends decided to create compost pits in front of each of their homes. They then summoned their neighbours and explained the importance of segregating and composting waste. Since then, farmers have been using the compost from these pits to fertilise their crops. The air pollution was tackled by Jeevitha and her friends planting fifty trees in front of their homes.

Jeevitha came up with an idea for a low-cost, automatic rain gauge. The gauge consists of a beaker equipped with a funnel and a pencil whose base is attached to a rubber ball. As water trickles in through the funnel, the ball becomes buoyant and rises, while the pencil that the ball is attached to, marks the increase in water level on a piece of revolving pipe which has a scale inscribed on it. The pipe runs on a 9 watt battery which is equipped with a water sensor that turns the pipe on or off depending on whether there is precipitation in the atmosphere. When she grows up, Jeevitha wants to be a social studies teacher who explores and studies India's many cultures.

Fierce and innovative, Jeevitha heroically rid her village of pollution and sickness caused by a nearby factory.

"In today's world why follow an outdated method?"

K. Swathi

Class 9, Kasturba Gandhi Balika Vidyalaya

It Takes A Village...

Securing a good education for yourself is one thing. But making sure all the elders in your village get one too is a commendable feat. Swathi has made it possible. She and her grandmother had gone to buy supplies for *Ugadi* in 2012 when she first was confronted with the reality of illiteracy. When it was time to collect their purchases Swathi noticed that instead of a signature, her grandmother put a thumb impression next to her name in the shop register. A large number of elderly customers also followed suit. It then dawned on her that this seemingly innocuous act meant that these village elders were illiterate. Having just become a Young Instructor Leader (YIL), and hungry to make a difference in her community, Swathi had stumbled across a problem that would, quite literally, 'take a village' to solve. Shocked and troubled by what she was seeing, Swathi asked the shopkeeper to show her his ration cardholders' register so that she could assess the extent of illiteracy in her village. What she saw in that register spurred her to take action.

After the festival, Swathi got permission from her teachers to spend a day at the primary school in her village, urging the children there to teach their grandparents how to read, write, and sign their names. One evening, during summer break, Swathi invited her friends—some of them YILs too — home and shared her concerns about illiteracy among the village's senior citizens. A survey revealed that roughly 50 percent of their interviewees could neither read nor write. Swathi and her team approached those homes that also had grandchildren to encourage them to teach their grandparents to read. At the end of the 50-day break, all of the elderly in Swathi's village—her grandmother included—were familiar with the Telugu alphabet and could read and write their names.

She talks about one of the major outcomes of her time at Agastya, "I no longer have any stage fear, thanks to Agastya". That, along with the service ethic promoted by the YIL programme, was what gave Swathi the courage and determination to organise and implement this successful literacy drive.

Swathi took up the mammoth task of educating all the elders of her village and emerged victorious.

"I no longer have any stage fear, thanks to Agastya"

V. Aswani

Class 9, Zilla Parishad High School

Abolishing Iniquitous Customs

Makers of history have inspired 13 year-old Aswani to create her own piece of history. Her favourite subject in school is Social Science, which is where she first heard of India's struggle for independence. India's freedom fighters quickly became a source of inspiration to her. Aswani too wants to fight for justice; her main goal is to abolish child marriage, for it nearly befell her elder sister a few years ago. She was bundled off to their uncle's house; the family had arranged an alliance for her, an old divorcee. Her sister discovered this and in a panic called Aswani. Worried, Aswani was determined to put a stop to her sister's nuptials. She borrowed money to buy a bus ticket and set out for her uncle's house. There she found her sister in tears, surrounded by family. Aswani stormed in and threatened to have all of them arrested. She confronted her mother, asking her how she could force her underage daughter into marriage. The prospective groom tried to reason with the fierce Aswani but she didn't back down! Duly chastened, the groom and his family departed, while her mother apologised for agreeing to the marriage.

Aswani is now more than ever convinced that child marriage is bad. She has seen many girls who marry early in her village grow weak. Aswani is proud of what she did. She used to be shy, but after coming to Agastya, she saw children speaking their mind and was inspired to do the same. Aswani says, "Agastya makes good citizens because they educate them and give them confidence". She appreciates the organisation for its efforts.

Aswani first started coming to Agastya in class 5. She tells us that she finds school boring because she does little besides reading there. At Agastya, she is encouraged to do experiments on her own. This makes learning both fun and interesting, and helps her understand things better, she feels. The open air gardens at the Kuppam campus are a favourite, because she gets to learn about plant life. She aims to become a doctor, so that she can cure the poor of their diseases. She hopes to build a hospital that will provide treatment for everyone.

Having rescued her sister from the evil clutches of child marriage, Aswani now plans to tackle the issue on a larger level.

"Agastya makes good citizens because they educate them and give them confidence"

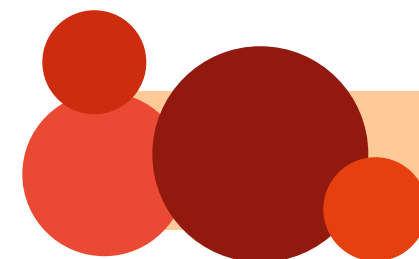
Making A Difference: One Tap At A Time

An avid problem-solver, 13 year old Asha's zeal to make a difference in the world has grown stronger since joining Agastya. Keen to share everything she learns at Agastya with everyone in her village, this Young Instructor Leader(YIL) admits that she was not always so eager to help others, "I wouldn't explain anything to anyone. [I was] very selfish in my education, I wanted to learn and I wanted to succeed". Asha has come to realise that this selfishness was the result of her fear of failing. She is determined to make the prospect of getting an education less intimidating for children like her.

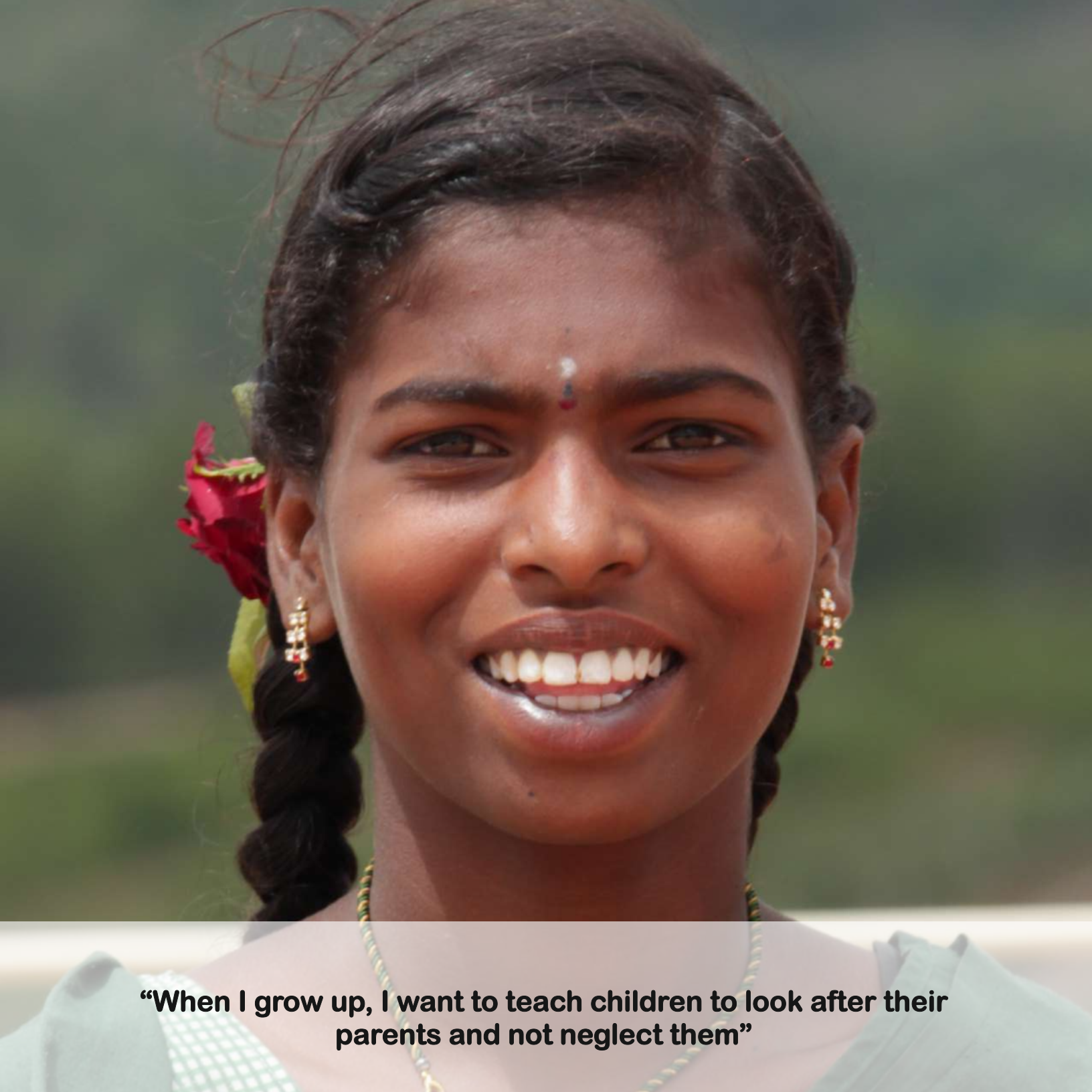
Something that Asha has learned in Agastya is putting compassion into action. Asha's neighbour was an old woman, Muniamma, who was routinely beaten, kicked, and starved by her son and daughter-in-law and had taken to begging for food. Having noticed how hungry she was, Asha started sneaking the old lady food late at night, when her son and his wife were fast asleep. Unfortunately Muniamma's health slowly deteriorated and she passed away. Although shaken, Asha likes to believe and is happy that in the last few months of Muniamma's life, there were people in the world who cared about her and her well-being.

Asha's interest in helping her community extends beyond the classroom. Recently, the village *Panchayat* installed a borewell in her village. But whenever the water pump was turned on, water was wasted. This was because of a rather basic oversight. They had failed to attach taps to the ends of the water pipes, leaving villagers with no means of turning the water off once their containers were filled. Noting the wastage of water, Asha asked her mother if there was anything she could do to stop it. Her mother replied that it was the *Panchayat's* job to address such problems. A few days later, when the *Sarpanch* visited their school, she mustered her courage and asked him to fix the open pipes. The *Sarpanch* agreed and within a matter of days, taps had been installed and water wastage controlled.

Compassionate about her community, Asha prompted the leaders of her village to fix a faulty borewell, saving gallons of water for the village.



“When I grow up, I want to teach children to look after their parents and not neglect them”



R. Indrani

Class 10, Kasturba Gandhi Balika Vidyalaya

Girl Power Advocacy

Meet Indrani, a fierce and dedicated soul who is a girl child rights activist at the young age of 14. Helping people and respecting elders is a life skill she has developed after coming to Agastya. She is now a firm promoter of girl child education. In her words: “girls should have rights equal as boys”. Her belief was truly put to test when the parents of one of her friends wanted to accept a marriage proposal for their daughter. Indrani talked to the *Sarpanch*, who managed to convince them to send their daughter back to school. When another friend of hers decided she wasn't interested in school and chose to drop out, Indrani would have nothing of it and motivated her friend to come back to school. In contrast to the girl who was shy and hesitant to speak up, Indrani says after coming to Agastya, her confidence has increased and enables her to participate in competitions and speak publicly.

Indrani is an orphan who lives with relatives. In 2011, Agastya officials invited her school to visit the Agastya campus. Indrani immediately loved the facilities at Kuppam finding it a good environment to learn. She participated in the State Science Fair, where her project was selected at the district level and then went on to the state level. Her air/pneumatic engine uses wind energy to make electricity. Indrani felt that educating people on this kind of energy was important.

Indrani's real ambition in life though, is to become an agricultural scientist. When asked why, she had this to say: “farmers are the back bone of our country. Without them we can't survive. Therefore I want to do research to help them”. During a visit organised by Agastya to a large farm called Heritage, Indrani learnt that small scale farmers could directly sell their produce without using an agent. This excited her, as now farmers in her village could sell their produce for better prices! Agastya also taught her how to test the soil for nutrient content. She shared this with the farmers in her village. She says that helping her farmers has been her proudest achievement because she managed to contribute to her community.

A feminist at heart, Indrani wants to obliterate the belief that girls are inferior to boys in any way!

“Girls should have rights equal as boys”



C. Sravani

Class 10, ZPPHS, Rallabuduguru

Mosquito Buster

Prevention is better than cure- this has always been Sravani's wise policy. Ever since her first exposure to Agastya, Sravani has become increasingly concerned about the stagnant pools of water breeding mosquitoes in her neighbourhood. Having learnt that mosquitoes cause diseases like malaria, dengue, and chikungunya, Sravani has made people in her locality aware about the dangers of allowing water to stagnate and has asked them to ensure this does not happen. Luckily for Sravani, her father is a member of the village *Panchayat*. She has been known to take advantage of this privilege to ensure the betterment of her neighbourhood. Her struggle for the greater good is now creating ripples of change in her village. Nowadays, if she happens to see potholes (potential water receptacles for mosquito larvae), she takes her father to the spot, points it out to him, and requests him to fill the holes and fulfil his duties in the process.

Sravani has also spoken to her neighbours and acquaintances about the importance of segregating and recycling plastic, which does not decompose. She is worried that the over-accumulation of plastic could cause natural disasters. She gets her ecological conscientiousness from Agastya, particularly the Kuppam campus, with its "natural atmosphere, and fresh air." Sravani has planted a number of saplings, supplied by Agastya, all around her village.

Before coming to Agastya, Sravani was indifferent to her studies. She now really enjoys studying and has no intention of stopping. It was only after joining Agastya that she came to understand that learning can be a dynamic and exciting process. According to her, "In school we are taught whatever is in our text books. In Agastya, on the other hand, we learn by doing things and that's what helps us understand the subject much better." Once terrified of Science as a subject, Sravani struggled to comprehend scientific theories and concepts even though she read her text books repeatedly. Thanks to Agastya, she has been able to develop the courage and the confidence to ask questions, and to keep asking till she gets a satisfactory answer!

Aside from battling dangerous mosquitoes, Sravani is quite adept at prompting the panchayat to solve prevalent problems.

"In Agastya, we learn by doing things and that's what helps us understand the subject much better."



“ I can speak freely with everyone, and am able to think deeply about everything”

From Kuppam To Pittsburgh

It is said that hard work and intelligence can take you places. In the case of Jyothsna, this has happened quite literally! With the help of Agastya, Jyothsna proved her talent to the world and has travelled to most parts of it. Before she joined Agastya in class 5, Jyothsna had neither seen a model nor done any experiments. All this changed once she became an Agastya Young Instructor Leader(YIL), and participated in the IRIS competition, which eventually took her halfway around the world.

For IRIS, Jyothsna and her friend Bhargavy chose to determine which plants, when planted in the dividers along the national highways, could best convert carbon dioxide into oxygen. They named their project “A study for growing oxygen on highways”, and started off by selecting six plants—three shrubs and three trees. They soaked one fresh and dry leaf from each in a tightly lidded glass jar full of water. They then exposed all twelve jars to three hours of sunlight after which they examined to gauge the amount of oxygen produced. The Singapore Cherry Tree and the Vabili shrub were the most effective. IRIS chose the girls’ experiment awarding them the Broadcom Masters International Award in the Junior Category, and thus gave them a chance to go to Pittsburgh, U.S.A.!

Over the next six months, Jyothsna learned how to present herself and worked on her English and communication skills. Jyothsna’s trip to the other side of the world took 18 long hours via Delhi, Dubai, and Atlanta. Jyothsna found that Pittsburgh was very cold, very clean, and had very tall buildings. During her seven days there, she made good friends with children from China, Saudi Arabia, and Mexico! Though she was able to see lots of different projects and do many fun experiments, Jyothsna cheekily says that Agastya’s labs are better!

Jyothsna’s ambition is to find a cure for AIDS, which she hears from the media, is a big problem in India. “If it were not for Agastya, my school life too would have been ordinary and my confidence would have been low”, she says.

Having travelled the world, Jyothsna wants to cure the deadly disease of AIDS in her own country.

1st year, Vikas Junior College

Jyothsna

Innovation



“I would not have continued with my studies, if it were not for Agastya”

Shining Bright

Young Dharani's forte has consistently been breaking gender stereotypes. The first person to travel outside her village, Dharani's story was published in newspapers and broadcast on TV. Her parents are very proud that their daughter has brought honour to their name. The daughter of a farmer and a housewife, Dharani says there is a prejudicial assumption in her village that girls can't accomplish anything. Her father was always mocked for having three daughters. But Dharani and her sister have proved them wrong. Dharani's older sister has a government job and is doing very well; Dharani has done well in her studies; and Dharani's younger sister is a really good dancer who participates in a lot of competitions.

One of Dharani's proudest moments at Agastya was when she got to participate in the IRIS competition in class 8. Dharani and her friend Supriya decided to try and determine which kind of oil and lamp would allow a flame to glow brightest and longest. The idea for the project came to Dharani as she watched her mother light the lamp every day. Eager to compare different oils to see which performed the best, Dharani and Supriya, approached Agastya for help to come up with an experiment. With Agastya's help, Dharani and Supriya took a chamber, in which they lit a lamp with a known quantity of a specific oil, and studied the intensity of the light emitted using a lux meter. After trying a range of oils, they found that sunflower oil gave them the best results.

They then studied lamps of different shapes such as a triangular lamp, a test tube lamp, and a custom-made clay lamp comprising two small containers, one for the flame and the other for the excess oil. They found that their custom-made lamp shone the brightest. The duo submitted their findings to IRIS, and got a special award for their presentation. When Dharani finally got back from her trip, her parents, relatives, teachers and peers all congratulated her and were so proud of her. This motivation encouraged her to do better in class and get good results. Dharani's ambition is to be a Physics lecturer, because she really likes teaching.

An alumna of Agastya, Dharani's experiments to find out which oil makes candles burn bright have earned her heaps of praise.

1st year, IRM Degree College

P. Dharani

Agastya

Road Alert

On a sunny morning in November, a plastic rocket fashioned from two disposable bottles shoots off the roof of the Agastya Science Centre in Bangalore with a huge bang. It is never seen again. Kausalya, one of its 'inventors' stands by beaming as her audience of children and instructors alike cheer with approval.

Kausalya began coming to the Agastya Science Centre in class 6 . She says she has "never seen anything like it, anywhere". Like all her friends, it was the models that intrigued her the most in the beginning. Things she had learnt at school began making more sense. "At Agastya, we see it. It's very interesting when you see and learn. That's the difference between school and here".

Kausalya has also learnt about road safety. One of her first models, constructed with a friend, was of a road hump to prevent accidents. "Driving in the mountains can be dangerous. Our model demonstrates how a car approaching a blind turn can activate a switch set in a road hump at the curve, and set off an alarm to alert a driver coming in the opposite way", she explains. Her schoolmates and principal were very impressed. "This is something that would help the community", Kausalya continues, "and the alarms have deliberately been kept visible to draw public attention to the need for alertness and safety".

The young woman's family is proud of her accomplishments. Her parents are happy to buy materials for her models and thoroughly approve of her desire to become an engineer. Kausalya dreams of creating things and supporting her parents so they never have to work again. She has learnt many wonderful things at Agastya; she tells us the importance of conserving water, how to help a person across the road, why it's good to work as a team. "Teamwork is very important. Together, we can create many things", she declares.

Kausalya has taken one huge step in the direction of preventing accidents on roads that are difficult to traverse.

"Teamwork is very important. Together, we can create many things"

Anitha Thapa

Class 7, Government Kannada Higher Primary School

The 'Cure'ous Case

Some years ago, a young Nepali man was devastated when his wife died. In order to bring up his three small children, Ratan Thapa remarried. His new wife cared for his children like her own and ensured that they remained in school in Bangalore. His daughter, Anitha does not talk as much as she used to earlier but when it comes to Agastya Foundation, this fourteen year-old becomes effusive. She remembers the first time two instructors came to their school when she was in class 5, bringing a Lab-on-a-Bike and astounded the children with many experiments. Over the next three years, the Agastya intervention demonstrated many scientific concepts. Anitha learnt through experiments about various concepts of Physics. Most recently, at home, she explained the difference between laser and ordinary light rays to her sister.

Anitha and her classmates are very happy that Agastya not only exposes underprivileged children to experiments but also encourages them to ask questions unlike schools where textbooks are strictly adhered to. She likes Agastya's teaching methodology of showing, providing raw materials, giving instructions, and then making children practice. Agastya instructors have already shown students models of the human body, along with models of organs like the kidney, lungs, and brain. Inspired, Anitha wants to become a doctor and cure people of diseases like dengue. Anitha puts into practice what she learns, and even helps her mother with the house work. She has taught her mother and neighbours about Swachh Bharat, cleanliness and hygiene and garbage composting.

Anitha feels she has learnt far more through experimentation with Agastya than through classroom lectures. Her father acknowledges the tremendous amount of knowledge that Agastya International Foundation has instilled in his daughter. He has become more responsible, works consistently and has cut down on his drinking. He wisely declares, "All children should be exposed to Agastya's methods of teaching, since I have seen the difference they have made to my child".

Anitha, despite considerable changes in her life, has stood strong and now wants to cure people of deadly diseases.

"Now I am unafraid to ask questions and more importantly, I am able to answer questions posed by others"



“Before Agastya I was unaware of the importance of electricity, but now I know”

Lighting Up Lives

Your first instinct, on seeing twelve-year-old Bhavana, is to smile. Intelligent and confident, Bhavana concedes that even though science is her favourite subject, she found its various theories and concepts difficult to grasp. Ever since Agastya commenced visiting her school, Bhavana finds scientific experimentation easier. She describes the difficulties she had understanding how to differentiate between acids and bases. To her delight, the Agastya instructors proceeded to clear her misgivings by a demonstration using red and blue litmus paper. They dipped the litmus paper in solutions and it turned blue for bases and red for acids. Bhavana successfully repeated the experiment using lemon juice. She eloquently explains that not paying attention to energy conservation contributes to both global warming and massive bills.

When her mother wanted to buy ordinary bulbs for the house, Bhavana insisted she buy LED or CFL bulbs which use less electricity, are brighter and last longer. Eventually, Latha gave in to her daughter’s persistence and bought the expensive LED bulbs. Bhavana smugly reports that her mother is happy now because their electricity bills are less when compared to previous months. Bhavana wants to be a Science teacher when she grows up, declaring “I am very interested in experimenting. So if I am a Science teacher then I will get the opportunity to do many experiments’. She asserts that without Agastya it will be difficult to reach her goal because they have the infrastructure and knowledge to guide her.

Latha who works as a tailor, says that when Bhavana was in class 5 she was a reticent child. Her daughter began to change in class 6 and Agastya started being mentioned frequently. Latha reveals, “When she talks about Agastya I observe a smile on her face which shows she is very happy to learn from them. Today she is so sharp and her progress makes me very proud. For a child, education is very important. For the best education, we have to find the best source. I am not worried about this because Agastya is one of the best educational sources for my child.”

A vocal advocate of energy conservation, Bhavana is extremely keen on experimenting and understanding science.

Class 7, Government Higher Primary School

Y. Bhavana

Innovation

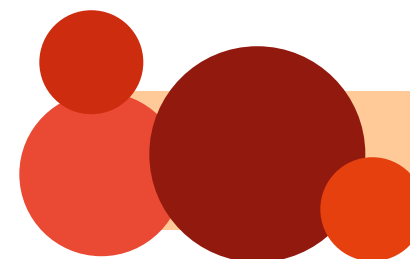
C. Mamatha

Class 7, Government Higher Primary School

Learning the right way

Twelve years old with a smiling face, twinkling eyes, and neatly braided hair tied with blue ribbons, Mamatha's wisdom is much beyond her age. A bright student who ranks first in her class, she loves reading, writing stories, singing, and dancing. Mamatha's parents live in Kannur village on the outskirts of east Bangalore. Her father is a small farmer and the productivity of their land is distressingly low, so her parents also work as daily wage labourers to make ends meet. Given this scenario, they decided to let Mamatha live with her maternal grandparents in Hulimavu. Mamatha came to know about Agastya recently, when an Agastya instructor came to her school with the Lab-in-a-Box. Mamatha was enthralled when she looked through a microscope and saw magnified images. Mamatha also loves the LIB's easy method of generating electricity from potatoes. Through trials at home, she made simple circuit connections to better understand the concept of electricity. Her grandmother, who encourages her to experiment by providing funds for materials, gave her fifty rupees for materials for Newton's disc. Mamatha's mother visits her often and ensures that there are no distractions.

Mamatha says, "Earlier we learnt science theoretically. Now we understand concepts more by doing things on our own". Her knowledge of the environment has also increased substantially. She is concerned about the degradation of the environment and advocates the use of public transport, growing more trees, banning plastic and segregation of household. Her science teacher, P. Jayashree, tells us that she actively participates in class, gives ideas and also supports other students. Mamatha plans to become a doctor and serve community members in rural areas where there is limited access to healthcare facilities. Her parents support her aspirations and hope that she will be able to fulfill them. Her advice to children younger than herself is, "Start doing small experiments on your own and involve your teachers in doing so". She believes that by this method, over a period of time, learning becomes easier. She also feels that all children should have the opportunity of learning the Agastya way.



An aficionado of experimenting, Mamatha has found the lab of her dreams in the Agastya campus.

"Earlier we learnt science theoretically. Now we understand concepts more by doing things on our own"



B. Rizwana

Class 7, Government Model Primary School

From Textbooks To Laboratories

A class 7 student walks up to the front of her school assembly armed with a book, announces its name and author, then confidently introduces the book to those present. Rizwana, the daughter of construction labourers, exudes poise and awareness in all her activities at school. Her headmistress, Parvathamma, has plenty to say about her. “Rizwana is a very confident girl who speaks well and is the school leader”, she says.

Introduced to Agastya’s ‘Lab-in-a-Box’ initiative in class 5, she recollects being taught about the solar system. With great respect and admiration for the Agastya instructors, she says “They ask questions on experiments that they show us and if we cannot answer, they explain the concepts again. They also encourage us to clarify any reservations on what we have just learnt”. She attended two camps conducted by Agastya at her school. Rizwana speaks with great enthusiasm of the Science Club consisting of 35 students from her school, of which she is a member. Due to her interactions with Agastya, she observes, “When it was only theory I did not understand the lessons, but now I comprehend more because there is more concentration on explanations through experiments”. Rizwana loves sports and participates in extempore competitions where she talks about her school, the environment and child rights.

Rizwana has seen policewomen in films and feels inspired to be one to help control bribery and corruption. Rizwana appreciates the advice of her Agastya instructor, “Naveen sir has guided me, telling me that I need to go through training after my pre-university to be able to join the police force”. Her mother Kajiya Bi, who also works as a housemaid in two houses, is happy that her daughters study well. She says, “My daughters finish their school work even if it is very late and only then sleep”. She encourages other parents to send their children to school saying, “If they do not study well, teach them at home and then send them to school”. Kajiya Bi concludes by saying, “I don’t know what their future holds. They say they will study well. I will teach them as much as I can”.

Enthusiastic Rizwana talks about her fondness for Agastya and how it helped her rise to newer heights.

“When it was only theory I did not understand the lessons, but now I comprehend more”



“I can tell others what I learn from Agastya, which is in a sense like being a social worker”

Service For The Needy

A bright and bold girl, Priya Cathrin is very sure of what she wants to be when she grows up. Inspired by Swami Vivekananda, she aims to do social work and help the marginalised. She is the daughter of a welder while her mother, Jaya works in multiple homes as a domestic helper. Priya says that through Agastya, not only did she learn science but also became aware about the importance of keeping her surroundings clean, waste segregation, wearing helmets, the need to reduce the use of plastic and the prevention of water wastage. She also got useful information like the help line numbers of the Bangalore city corporation, whom she can call to alert about open drains. Ask her how all this will help her and she answers, “I can tell others what I learn from Agastya, which is in a sense like being a social worker”.

Her headmistress, R. Jaya Gowamma tells us that her confidence is because of Agastya; “Priya came from a Tamil medium school to a Kannada medium one. She won the second prize in an essay competition at the *taluka* level while her speech on Swachh Bharat Abhiyan won a prize at the district level”. A brilliant student, Priya topped her class even in Kannada, much to the surprise of all her teachers.

Priya particularly loved Agastya’s demonstration of rockets, “Using the kick-rocket model, they explained its purpose, where you can go in it, how it works, how much time and money it takes to make and how scientists use it”. She enjoyed learning from Agastya about the presence of water and types of atmosphere on different planets. Her mother Jaya, who has only studied up to class 10, is full of admiration for her daughter and encourages her to teach others too. Priya tells her about all the interesting lessons she did at school and attempts to replicate experiments at home. Jaya boasts, “Priya now reads the newspaper just like the TV news anchors do”. Unlike other courses like Sciences and Mathematics, Priya has chosen a path less traveled and is steadfast about being a social worker. Her aim is to impart the knowledge she gains, to those in need, and thereby make a difference.

Unafraid to stray off the beaten track, Priya Cathrin wants to alleviate the issues plaguing the repressed of the society.

Class 8, Government Higher Primary School

T. Priya Cathrin

contribution

R. Sinchana

Class 7, Government Model Primary School

Electrician Anyone?!

In order to provide their three children with quality education, Sinchana's parents moved from Mandya to Bangalore four years ago. As a kid, Sinchana's was very distracted. However, Sinchana has turned over a new leaf, and both parents are quite clear that Agastya is responsible for this change. Sinchana concedes that she did not have a questioning nature, and blindly accepted everything. She says, "I did not speak or clarify issues with my teachers because I was scared of them". Science was her weakest subject and she was clueless about doing experiments. When she was in the class 5, an Agastya instructor explained the importance of science and told the students he would help them understand concepts through demonstrations and conducting experiments. On hearing this, Sinchana's curiosity was aroused. Since then, Sinchana has gotten to interact with Agastya multiple times.

Sinchana had observed her father fix small electrical problems around the house. One school holiday when there was a power cut, the twin influences of Agastya and her father helped her fix a wiring issue all by herself, much to her mother's amazement. Agastya also taught her class the importance of separating wet and dry waste, and how water was not to be wasted. Sinchana imparts this learning to her family and they now practice garbage segregation keep their house clean, and consciously try to save water at home.

Jayalakshmi and her husband are very happy with the positive changes they see in their daughter, and give all credit to Agastya. "When my daughter has a holiday, she tells me to go to work, and takes care of all the household chores. She has become a responsible and courteous girl!". Jayalakshmi's proudest moment was when she was able to write her name in English and Kannada thanks to Sinchana's patient teaching. Jayalakshmi wants her daughter to become a teacher and ensure that all children know how to read and write.

Initially fearful of science and experimentation, Sinchana is now a budding electrician and best friends with wires and gadgets.

"Agastya instructors taught us science so well that I want to teach other children the same way so that they can grasp concepts faster and enjoy the subject"

Nifty Improvisations

A shy girl with a demure smile, Sri Lakshmi has always had an affinity for science. Thanks to her contact with Agastya's 'Lab-in-a-Box' programme, Sri Lakshmi came out of her shell. The Agastya instructor told the students that they were to create a model at home after demonstration in class and he would select the best. Sri Lakshmi proudly declares, "Mine was the best model in class"! Her first attempt to create a simple circuit with an electromagnet did not work. She improvised and was successful, much to the delight of her teacher. Sri Lakshmi has taken part in a competitive Science and Mathematics exam, which could provide a scholarship of 500 rupees per month if she is selected. In another competition conducted by the planetarium, Sri Lakshmi was awarded the first prize in Mathematics and the second prize in Science.

She loves to read books and has penned many Kannada poems. Sri Lakshmi's father works as a security guard and her mother, Yashoda, is a tailor. When asked how they manage funding the education of three daughters, Yashoda exclaims "That's why we are working! They are our children and if they do well, we will be happy". She continues, "Sri Lakshmi does her school work and also helps me with the household chores and the cooking. She keeps busy all the time". Her husband too is very supportive. Yashoda recounts with pride how they had attended a parents meeting where the headmaster portrayed them as role models to the other parents assembled there.

Though Sri Lakshmi first wanted to be a teacher, she now aspires to follow her sister who is studying to be a nurse. She teaches her mother about the benefits of separating waste, and influences her to carry baskets rather than use plastic bags. "We clean up the school surroundings and cover open drains to reduce breeding of mosquitoes". This Agastya intervention has successfully given Sri Lakshmi the necessary tools to confidently move forward and grow from strength to strength in her journey to being an asset to society.

A competitive exam whiz, Sri Lakshmi is quick to put into practice everything she has learnt in Agastya.

"I want to give injections and treatment to cure others"

Basamma. H

Class 9, GHS Kodigehalli

Offering makeovers to cities

Basamma is an extremely cheerful and energetic girl with a profound affinity for books. Her passion for reading has led to assembling her own little library with 297 books. When not busy reading, Basamma can be seen in her nursery, where she grows medicinal plants like Tulsi, Aloe vera among others. She proudly declares that not one single rupee has been spent to set up the nursery. The containers are made of waste material like coconut shells and used water bottles. Basamma has also started making her own manure from kitchen waste, taking forward her drive to recycle. She also plans to develop a model which will grind the kitchen waste at source in a churner, then flows down the pipes just like regular waste.

This newfound confidence was ignited in Basamma after she participated in "Pick and Speak" as part of the selection process for the Agastya Young Instructor Leader (YIL) programme. Initially nervous, she emerged victorious out of the activity as a girl who could speak fluently. This was further cemented by her exposure to the film making workshop at Adobe Youth Voice (AVY) which included story and script writing. Her chosen topic, 'Saving the Tiger' was selected to be aired on the radio. Through an initiative "I Change my City", whose representatives visited her school, Basamma and her friends got a road tarred and street lights fixed. In the "Eyes on Nature" program conducted by Indian Institute of Science, she was trained to study and identify trees, birds and butterflies. Agastya would visit them and explain the story behind each tree, its etymology and uses. Basamma wants to be a pioneer in the untapped field of 'Environment Research'. After becoming aware about water pollution and restoration of lakes, she wishes to restore many other lakes as well. Programs facilitated by Agastya like Parikrama festival of science acted as catalysts in enhancing her knowledge about environment. Basamma also aspires to become an IAS officer and improve the state of government schools. Her parents, who are construction workers, are extremely encouraging. One of her role models is Swami Viveknanda and she believes in his words which speak of harmony and peace amongst people despite their varied nature and personality.

Passionate about the environment, Basamma wants to work to restore natural water bodies.

" I want to work with Agastya and nurture young minds"

M.A. Bhanupriya

Class 10, Government High School

Evading shortcuts

An ardent fan of films starring Girish Karnad, 16-year-old Bhanupriya's intellect is far beyond her years. Like her peers, Bhanupriya was initially afraid of speaking in front of a huge audience. It was in the Adobe Youth Voice (AYV) program that she let go of her stage fear while interacting with kids across the globe. Today, she along with her friends performs in almost all the events, excelling even at extempore. Through these events, she has learnt about various sources of electricity like wind, solar and even cow dung. She plans to implement her knowledge in her village to solve the problem of low electricity generation. Bhanupriya has also started thinking along new lines like inventing alternate sources of energy. Not being someone who seeks shortcuts in life, she believes that the government must stop distributing rice at 1 rupee per kilogram, especially to able people; rather they should be provided with jobs. She and her friends have made 5 short films including "Human values", "Deforestation" and "Child marriage" for the AVY event. Their movie on child marriage was selected for further screening.

Bhanupriya says, "We should let go of our fear and achieve that which we are sent into this world for". In her opinion, children who study science are very sharp and she wants to be counted as one among them. Her ambition is to become an IAS officer and she is already on the job, reading whatever books she can get on law and order. One of the first improvements she plans to bring about as an IAS officer is to setup a helpline which is easily accessible whenever there is an incident of violence or corruption, so that immediate action can be taken by the appropriate authorities. Another issue that disturbs her is alcoholism and feels highly perturbed when she sees her uncle and his entire family suffer because of this addiction. She believes that the only way India can improve is by imposing a ban on liquor. Helped and motivated by teachers and parents, Bhanupriya is able to concentrate better on her studies and taking her mind off the financial hurdles. Wisely planning ahead, she is already saving her pocket money for her and her younger sister's education. "I want to associate with Agastya in the future and take it to remote rural villages, expanding in the entire of Karnataka", she tells us passionately.

A young filmmaker already, Bhanupriya is all ready to launch an anti-corruption battle of her own.

"We should let go of our fear and achieve that which we are sent into this world for"



“Agastya khulke padhata hai”

Redefining The Self

Thaiyabba is a cheerful, sensible and a highly ambitious girl of a tourist bus driver. She confesses that she has come a long way from being indifferent about her surroundings to eagerly looking forward to learning anything new, especially during the visits Agastya made to her school. Thaiyabba recalls her experiential learning of food chain, to make the best out of waste, that combustion requires oxygen and other chemical reactions through experiments and models. She tells us that it was in Agastya that she saw such experiments being done for the first time.

Once Thaiyabba learnt about waste segregation through Agastya, she put it into practice at home. When she learnt about plants in the “Eyes on Nature” program, she planted medicinal plants like the Indian borage and ginger. At a summer camp with Agastya, she learnt about rainwater harvesting through puppetry. She now saves a full drum of water during rains which is comes as very useful, especially considering the fact that they get water only twice a week in the area where she lives. Apart from a surge in her scientific knowledge, Thaiyabba claims Agastya connected her with nature and helped her in improving her English to an extent that she gave a speech on Dr. Sarvapalli Radhakrishnan on stage with great confidence, having overcome her stage fear. She stresses that the entire speech was in English. Thaiyabba wants to become the first doctor of her family and open her own hospital, both in India and abroad. She is already on the way, because she rushes to do first-aid to everybody and advises people on health issues using the little knowledge she has gained. Her eldest sister has also promised to support Thaiyabba in her education.

Thaiyabba also has a few pieces of advice for her favourite organisation. She wants Agastya to extend the Young Instructor Leader(YIL) programme to include her entire class and for it to open an old age home. When asked how Agastya is different from her school, she says in Hindi, “Agastya khulke padhata hai” (Agastya maintains a very open and free atmosphere for education).

Ever open and thirsty for new and incoming information, Thaiyabba has newfound confidence in her spoken English skills, all thanks to Agastya!

Thaiyabba.Z

Class 10, Govt. PU College – High School, Yelahanka

Innovation



“I will stand first!”

Propagating Education

One day, as Radha was walking down the road while reading her diary, she bumped into three kids playing on the street. The kids were curious about what she was reading and when she told them about it, they couldn't hold their disappointment as they were never sent to school due to financial constraints. This was the trigger! Radha called Child Helpline and informed them about these children. Today, the kids are happily going to school. Initially their education was sponsored by Helpline itself but one day they received a call from the children's father that he now has a job and would like to take care of his children's education himself. During the selection process of Young Instructor Leaders (YILs) by Agastya, Radha's sister (also a YIL) was at their village enjoying her summer holidays and couldn't make it to perform at a science fair. Radha was requested to explain the model of a “Deep Well” though she was not yet eligible for being a YIL. “Deep Well”, till date, remains one of her favorites.

Radha has participated in initiatives “I Change My City” and “Bala Jana Graha” through which she has even got roads repaired. Inspired by the Childrens Movement for Civic Awareness(CMCA), she met the Corporator of her locality and explained that the municipality garbage collection van doesn't come to her place. Today by 7:30AM, her neighbourhood is completely cleaned up, which gives Radha a sense of achievement. Because of her earlier interaction with Child Helpline, she was invited to present a story on the radio. She along with her friend won the Best Story award for her story which describes the difficulties faced by an abandoned child. Apart from increasing her knowledge and interest in studies, Radha believes that Agastya groomed her to present herself to the outside world. There has been a transition in her from a child who only studied for exams to one who wants to get a deeper understanding of everything around. Radha mainly wants to become a doctor to help the poor mainly through free health camps. She confidently says that she aims to stand first in her SSLC exams; in her words:“I will stand first!” One cannot help but root for her to succeed in her endeavours.

An overachiever at a young age, Radha never hesitates to play the Good Samaritan.

Class 9, Government High School

Radha

CHIRIOSITY