



#### Message from Founder



It is my pleasure to present Avani's report card for the year 2017-18. This year has been another one of very enthusiastic response to Avani's work by all stake holders.

Addition of new farmers to indigo cultivation, setting up of new power plants based on pine needles is a testimony to our work at the village level, whereas increased sales of products crafted by artisans indicate growing popularity of sustainable products by customers in these difficult times for the markets. New grants raised for scaling our work from donors makes us feel confident that the need for addressing the natural resource stress is being recognised globally.

Our efforts have also gained some recognition from other stakeholders.

Dr. Tolia, the people's bureaucrat, had been associated with our work since we moved to this area, and what an honour to be recognised by Indian Mountain Initiative (IMI), an organisation founded by him, through an award instituted in his fond memory, Dr. R. S. Tolia Award, in recognition of Avani's work with the mountain communities. This award was given by the Governor of Mizoram in Aizawl.

We are proud to announce that Avani was awarded the Naari Shakti Award, the highest civilian award for women, in recognition of our commitment to uplifting the life of women, the backbone of rural economy in these mountains. This award was given by the Honorable President of India, Mr Ram Nath Kovind.

Avani got yet another recognition when we received the Millennium Alliance award a second time, this time for our work with farmers on cultivation of dye yielding plants and making natural colours for wider application.

Our efforts with government to formulate a coherent policy on use of pine needles have been incessant, and we are confident that the draft policy will be accepted and instrumental in promoting use of pine needles - in order to address the issue of forest fires - for generation of usable energy and livelihoods in the area.

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### Our Work

#### Renewable and Clean Energy

- Solar energy Installations
- Sustainable energy and livelihoods from pine needles

#### Women Empowerment & Community Development

- Self Help Micro Credit Groups
- Environmental Awareness Programmes

#### Livelihoods and Income Generation

- Textiles Spinning, Dyeing, Knitting, Weaving, Tailoring
- Natural Colour Processing Water colours, crayons, pigments and extracts
- Cultivation Dye yielding plants and soapnuts

#### Education

• Abhivyakti Primary School

### Location

Avani works in the remote mountains of the Kumaon region of Uttarakhand. The main centre is located in Pithoragarh district in the north-east of Uttarakhand.



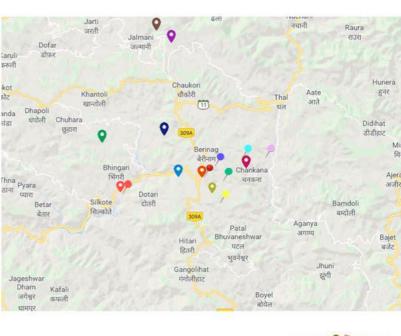
### Avani Centers & Bio energy Projects

Each center is associated with a number of villages around it. The centres were made after a survey of the remotest villages, where a need for intervention was felt.

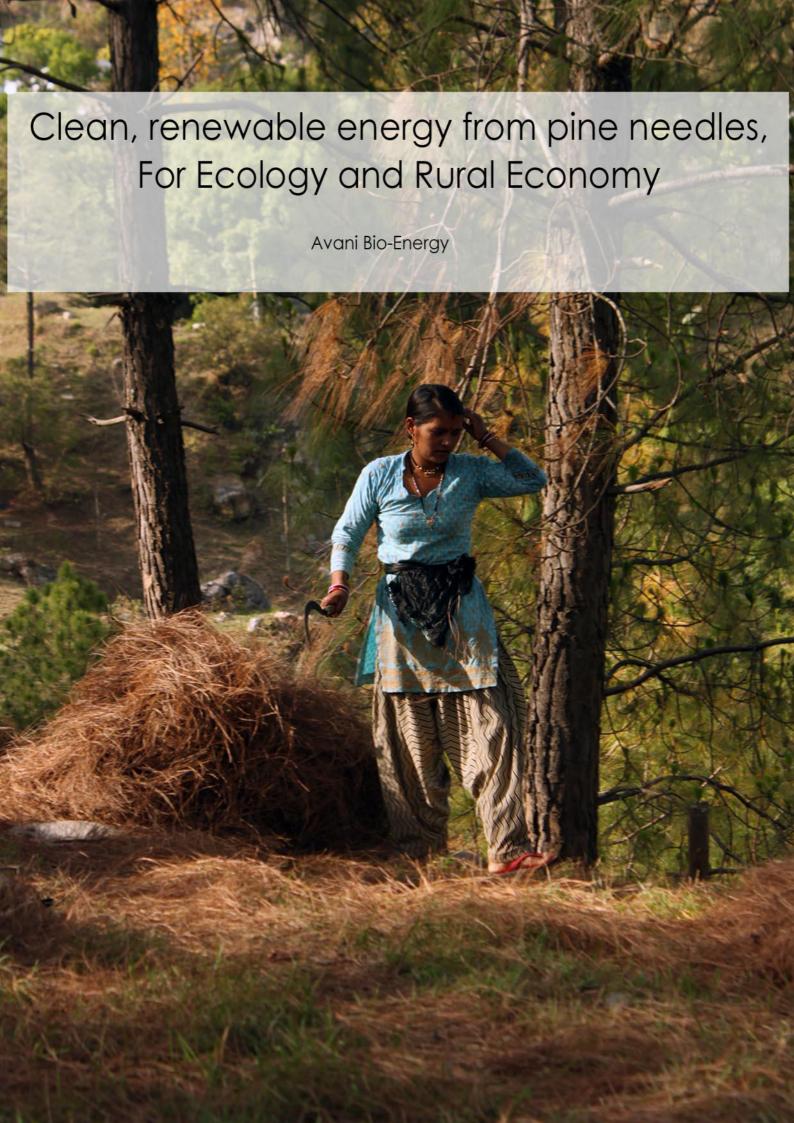
The map below also depicts the locations of Avani's Bio Energy Projects, where 10-28 kW plants are either functional or being currently set up.













# Highlights of the Year

Avani's pine needle gasification project has achieved some important milestones this year.

- The completion of 4 plants of 10 kW at selected sites in Villages Seli, Bhetijar, Dangigaon and Lingurani. In addition, 2 more plants of 28 kW are nearing completion at sites in Villages Bana (Berinag) and Kunthari (Dwarahat). These will bring the cumulative generation capacity to 116 kW. We have also shortlisted 2 more sites for proposed new 28 kW plants for the next phase of development at Villages Chankana and Singoli.
- Avani Raised a 2 year project grant from The Hans Foundation (2017-19)
- A grant towards capital expenditure for the 28 kW project at village Bana was raised under the Small Grants Program of UNDP's Global Environment Facility. The project was successfully executed within a period of just 3 months.
- Avani Bio Energy has obtained a blanket approval of the Draft PPA for small scale bio energy plants from UERC, reducing the turnaround time for PPAs.
- The project has made a step towards a second cluster of plants, beginning with the 28 kW unit under development at Dwarahat and first to be managed by an independent rural entrepreneur.
- Community mobilization is generating entrepreneurial interest in the project. Training and orientation events were organized in July and November.





## Clean energy from pine needles

#### Key Metrics

- 8880 kWh of renewable electricity were exported from the 2 pilot plants to the grid.
- Over 400 tonnes of pine needles were collected at 7 sites during the season this year.
- Approximately 3 tonnes of pine charcoal briquettes were produced, of which 1826 kgs was sold locally.
- Combined CO<sub>2</sub> reduction from project activites are estimated to be 700 tonnes for the year.
- 36 rural households in the project area were provided subsidized, efficient charcoal stoves as well as pine charcoal briquettes to replace fuel wood from local forests.
- 6 stoves were sold to small local businesses.
- 84 local individuals benefited from seasonal employment in pine needle collection.
- Income of over Rs 8 lakh was generated for local households through collection.





This year, Saroj Sah from Seli village bought a refrigerator to support her milk business. "For so many years, I used to fill the milk in bottles and keep it in buckets of cold water, sometimes boil it, re-boil it; so that it remained fresh until the vehicle going to the market came to collect it. Many times, the vehicle came once in two days. Now there is fridge, my milk will remain fresh for more days," she said with a bright smile. Saroj was able to buy the fridge with the money she earned from collecting pine needles and selling them to Avani for the gasifier that is set up in the vicinity of her village.

Sixteen-year-old Saroj was married into Seli village more than twenty years ago. "They told us that my husband had a government job. But who knew that we were being duped. He was an alcoholic. He used to be intoxicated all the time," narrated Saroj. So Saroj had to work to run the house. "I used to carry stones. I bought some cattle and I sold milk," she said. Saroj has been running her household by selling milk for the last several years. She managed to build a house and educate her daughters with the money she saved. "When my older daughter was born, my husband decided to go to Delhi to find a job. But his habits did not change. Four years later, he died, being run over by a train. Some say he was under the influence of alcohol at the time," she said. Saroj's mother came to live with her when her husband had left for Delhi. She continues to live with Saroj, whose older daughter is now married and the younger one is completing her eighth grade examinations.

When Avani approached the villagers in Seli with an offer to buy dry pine needles that they would collect, Saroj remembers everyone being hesitant because the price did not seem attractive. "They said we would buy it at Rs. 1.25. People thought, what could one do with such little money? But one can make 100 rupees by collecting one rupee at a time, isn't it?" she asked rhetorically. Saroj had some previous experience with collecting pine needles. She is unable to remember that it was Avani itself that had organised this collection a few years ago, but vividly recollects having earned Rs. 8000 then. "At the time, when they had agreed to buy the pine needles at one rupee a kilo, even I had refused. But that night I thought about it again; who would give a poor person even one rupee just like that. Here the work was so simple, and I realised a gunny bag can accommodate almost 10 kilos. I collected so many pine needles at that time. Unfortunately, the machine that made bundles of these pine needles stopped working; So I was paid a lumpsum amount on a fair estimate of the collection," she narrated.

This time, Saroj was one of the few who agreed almost immediately. "My mother, my daughter and I, all collected the pine needles. Now after looking at the amount of money I earned even the other women in the village have become enthusiastic about this activity," she shared. Saroj feels that this opportunity is far better than lugging boulders to construction sites. It is seasonal, and she receives the money on time, which is crucial. "My mother and I are also enrolled with the MNREGA scheme in the village. But the money never reaches us on time. Sometimes it comes after two months, and at other times after six. What is the use if we don't have the money when we need it," she explained.

The next season of pine needle collection is about to begin, but Saroj has already begun collection. "Look next to the gasifier when you pass it, the bundle of pine needles lying there is mine," she tells us enthusiastically.







### Womens SHGs and Microfinance

- At present, Avani is working with 25 SHGs comprising 307 members.
- Micro loans worth INR 3.62 Lakh have been provided in last three years
- Of these micro loans, INR 1.73 Lakh have been recovered over the last three years
- The International Women's day ceremony was held at AVANI campus on March 8th. 300 women community members from 26 villages participated in the event.

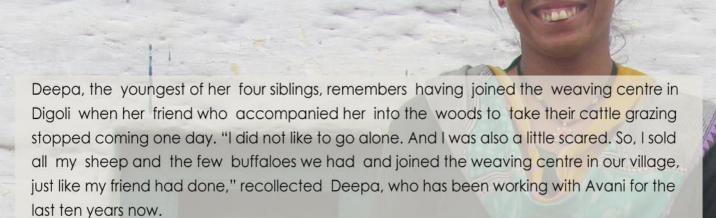






## Highlights of the year

- Overall, the program has reached rural communities in 64 villages, benefiting 1550 people directly.
- AVANI received Dr. R. S Tolia award of Integrated Mountain Initiative for exemplary contribution to sustainable development. The award was presented by his highness the governor of the state of Mizoram.
- AVANI also received the prestigious Nari Shkati Award for the exemplary contribution to Women's empowerment and entrepreneurship.
- AVANI received a certificate of recognition for Innovative, Inclusive, Sustainable and Commercially viable Sustainable Natural Colorants by Indian Merchants Chamber.
- Avani's programme for livelihoods through craft and natural colors received the Millennium Alliance Award. This is in addition to Avani winning this award in 2016 for generation of electricity and cooking charcoal from pine needles in 2016.
- Avani's Livelihood programme also won a competition which came with a grant for the expansion of income generation, from LemonAid & ChariTea E.V.- a Germany based organization.
- Artisans and farmers made an income of almost Rs. 29 Lakhs through production of textiles and dye material.
- Earthcraft, the artisans' cooperative spawned by Avani, made a total income of almost Rs. 73 Lakhs from sales of textiles, colors and services such as training. There is an increase of almost 50% over the last year's sales inspite of demonitisation and GST, which has seen sales of small businesses going down.
- 45 new share holders have been added in this year to the Earthcraft cooperative which now has 422 members.
- Indigo cultivation among the farmers is becoming popular. 71 farmers have been added to the Indigo growers' number leading to a total of 199 farmers, who produced 13,500 kg of green leaves giving 150 kilos of Indigo cake.
- In order to make standardized dye material, both raw material and pigment, we set up a lab for testing the material before making it available to the users.
- Earthcraft has started offering training in natural dyeing processes to make natural dyes more popular. This is not only going to increase the use of natural dyes leading to a higher demnd for dye material, but has added an additional revenue stream from training.



Deepa was 20 years old when she joined Avani's centre in Digoli. Three years ago she got married and moved to Sukna, another village where Avani incidentally also had a centre. Often, the experience has been that girls who begin to work at the centres end up giving up on their talent as weavers given the demands of everyday life as wives and daughters-in-law. But Deepa's experience showed a new way. "Initially for a few months after marriage it was tough. I don't have any in-laws and so I had to learn to manage the house on my own. My husband used to work in the city," she explained. After some months as a routine set in, Deepa started finding more free time to herself; and that is when she decided that she would go back to weaving. A loom was initially put up in her house and later she started walking to the centre which is some miles away. Today, Deepa continues to work at the centre even while she brings along 1 ½ years old Tanvi with her. "She keeps herself entertained, while I do my work. Sometimes, there are other children too," she explained when asked how she balanced both these tasks that require her intensive attention, "When my daughter was born, I couldn't manage everything on my own. So, I asked my husband to come back to the village. Now he works as a labourer on different jobs and I get some help in looking after Tanvi," she said.

Deepa earns about 5000 rupees a month. "I have made a house for myself too," she said with a smile. Besides acknowledging the income that her work brings, Deepa confessed that she loves to weave. Her keen interest reveals itself in the designs she has recently learnt to develop in a course with Somaya Kala Gram. During the course, Deepa couldn't go to the field visit to see the samples of work their team was to gain inspiration from. But she managed to gather all the information she could from those who went and created beautiful patterns combining aipan art and natural dyes. Deepa remains an inspiration for the younger weavers at Avani, who are learning about the possibility of balancing household chores with activities outside of their domestic sphere. With Avani's expanding network in the villages of Kumaon, we hope that the weavers can continue to use their potential to hone their talents even as then grow from girls to women, wives to mothers and grandmothers!







Looking at the demand for Indigo, its potential to use wastelands for cultivation to enhance farmers income and the environmental aspect of using natural dyes, we focused on growing two temperate varieties of Indigo – Strobilanthes Cusia and Polygonum Tinctorium. This is primarily to involve farmers at different altitudes who can grow one of the suitable varieties depending on the climate, which changes with altitude in the Himalayas.

During the monsoon season we multiplied both varieties. 250 saplings of Strobilanthes Cusia were prepared from the mother plant and planted in the farm at Avani's campus. We also planted 36 bushes of Polygonum Tinctorium, and collected 750 grams of seed, which will be used for the nurseries during the coming year. Our team will continue to multiply the saplings and disseminating these to the growers in the villages.

One of the main reasons for popularity of Indigo with farmers is the short crop cycle, only 10-12 days of work and good earning potential from land lying fallow. Among the 10 farmers who earned Rs 4000 and above, 9 are women. The top earner who made more than Rs 6,000 is also a woman.

Pigment extraction with the Strobilanthus variety was successfully conducted by our team, who continue to learn about quality testing of dye material. Towards this, two training sessions were conducted for our staff members with a Lab at IIT Kanpur and Arvind mills, Ahmedabad. During the training our team learned about the calculation of Indigotin % in pigment, calculation of dye content in dye powder, color observance of yarn and the use and maintenance of equipment.

# Pigment Extraction Unit

A mechanized dye extraction unit has been functional at Dharamghar centre. The trials for pigment extraction have been successful.

During the trial run, 274 kilos of dye material was processed to get 12 kilos of extract. This clearly indicates the value addition potential. Micro-entrepreneurs can sell high value low volume product from the area for generating conservation based livelihoods.





## Marketing & Branding

- Presence in exhibitions AVANI participated in 12 exhibitions in year 2017-18 including the indigo focused Sutra exhibition and seminar at Kolkata during the month of November.
- At Sutra, Avani made a presentation on the subject of "Poineering the Cultivation, Extraction and Dyeing of Indigo in the Indian Himalayas". At the exhibition organised with the seminar, our indigo products and color pigment received highly enthusiastic response. AVANI's Himalayan Indigo was auctioned at the event, in a historic -style auction conducted just as it was done a 100 years ago. It was helpful to increase our market linkages.
- We have developed natural pigment based printing paste, dye powder and natural extract for block printing and dyeing units looking for natural colors. This material is being used by seven production units on a trial basis. Jabbar Bhai, a well known traditional block printer of international repute is regularly using dye material produced by Earthcraft. We hope to increase the number of producers using natural dyes for printing and dyeing.
- •Google Art and Culture We continue to present our work through online exhibits at the Google Art and Culture Institute a platform promoting traditional crafts and innovative artwork through online exhibits. Our participation has enabled us to expand our network to a global audience. Thus far, we have published exhibits on indigo cultivation, women's empowerment and natural dyeing. Two additional exhibits, a feature on the Bora People (one of our primary beneficiaries) and a "Seed to Scarf" exhibit, are due for publication in 2018.





# Training & Workshops

• Implementation of HSN code (Harmonized System of Nomenclature) -

We have implemented HSN code for all our products under the GST (Goods and Service Tax) rule implemented by Government of India in July 2017. We participated in an online training with a tally consultant. Record keeping software has been upgraded and all of our products are updated with HSN codes, which has been helpful for reporting.

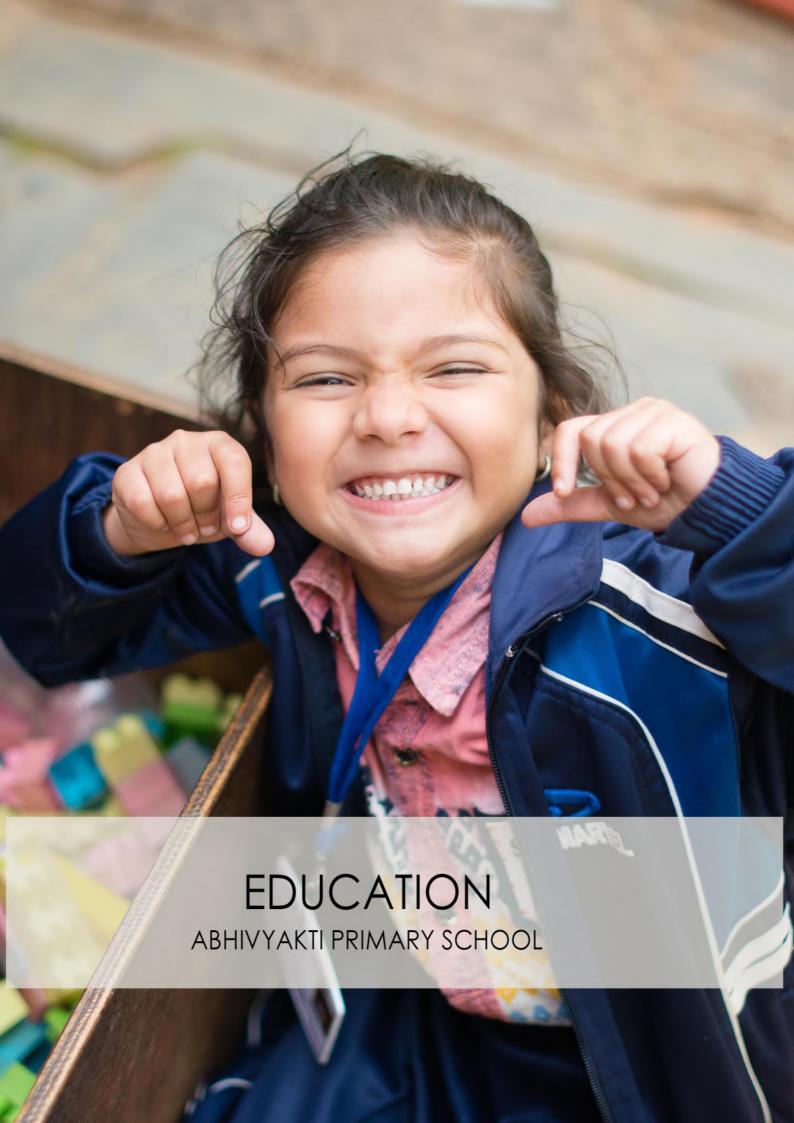
- Dye testing A three day training programme has been conducted for the testing of the quality of dyes in our own lab. Three participants of our team participated in this training programme. During the training, we learned about the Calculation of indigotin % in indigo pigment, Color observance of yarn, Percentage of dye content in raw dye powder and the use and maintenance of machines.
- Indigo testing We participated in a training at Arvind Mills, Ahmedabad, to learn the methods for determination of Indigo strength in dye material. Two people from AVANI participated in the training. Now we are able to do this test at our lab.
- •Block printing We conducted a block printing workshop with Bodhi, a well-known block printing unit in Ahmedabad. They trained our natural dyers in block printing, while we experimented with using our natural dyes. Given the success of the results, Bodhi now wishes to use our natural dyes for their entire block printing enterprise. We have completed sampling and will start production very soon.
- Knitting training We conducted a knitting training with the company Indigo Design at Rudrapur. Uttarakhand 5 participants from AVANI participated in this training programme. During the training, participants learned to produce new varieties of knitted toys.
- •A team building workshop conducted with Women on Wings covered topics such as: Teambuilding, The importance of good and clear communication, Sensitization and action points for improvement of Organizational communication.



#### Dissemination of natural dyeing

In order to promote the use of natural dyes as a means of conservation based livelihoods for the farmers and artisans, a formal training program has been launched this year. During the year, 5 training events have been conducted benefiting 23 participants from across the globe.

Earthcraft is now promoting natural dyeing workshops as an additional revenue stream. In addition to generating revenue, these workshops have been helpful in expanding the outreach for sales and brand building.





Initiated to impart a more child friendly education, Abhivyakti continues to function at AVANI campus in Tripuradevi, as a primary school. Abhivyakti, meaning "Expression" in Sanskrit, is an alternative learning centre, - one that focuses on self expression.

- This year, Abhivyakti school received recognition as a primary school from the Department of Education, Government of Uttarakhand.
- The school received a grant from the Eicher Good Earth Foundation for expanding the building, learning facilities and operational support.
- Infrastructure development continues at Abhivyakti. A block of two classrooms and workshop space has been completed during the year. Another block of 3 rooms for teaching and creative activities is under construction.
- •An exposure visit to the capital city of India was organized for Abhivyakti's students. This was the first out of state travel for some of the children, to visit and learn about the heritage and how large cities in our country are organised. The group visited historical monuments, along with educational and entertainment venues. Apart from our teachers, Vana Safaris, a travel company curating personalised safaris and life style journeys provided complimentary travel, food and guide support in exploring the national capital to our students.







The AVANI campus strives to be an eco-friendly living and working space

- Since the beginning, Avani has been harvesting rainwater for drinking and other needs. We added over 80,000 litres of storage capacity during the year achieving a total of over 7 lakh litres, which meets almost half of total water needs during the year.
- The used water is recycled through various methods such as anaerobic treatment and a constructed wetland.
- The organic farm on our campus produces fresh vegetables which are used for preparation of meals in the community kitchen. The farm is irrigated using recycled water, and the soil is enriched using vermi-compost made from organic waste and cow dung.
- The electrical energy needs of the campus are met through a combination of solar, pine needle gasifier and the grid.
- The community kitchen conserves LPG by using fuel briquettes made from residual charcoal from pine needle gasification. In addition, a solar cooker is also used. These methods reduced our dependence on LPG by an estimated 30% during this year.







#### AWARDS AND RECOGNITIONS

2017-18

Avani has been bestowed with the Prestigious Nari Shakti award - 2017.

"The highest civilian honor for women" awarded on International Women's Day every year by The Ministry of Women and Child Welfare, Government of India.

Avani has received the Millennium Alliance Award for the livelihood generation programme through crafts and natural color. The award ceremony will be held in May 2018. Previously, Avani has won the Millennium Alliance award in 2016 for the bio energy programme.

Avani also received the Dr. R.S.Tolia Award instituted by Integrated Mountain Initiative in the memory of their founder.

## Collaborating Institutes





































Azim Premji University















Institute of Rural Management Anand

## Our Funding Agencies

















Ministry of Water Resources



















Goodearth Education Foundation

## The General Body

- Mr. Jasod Singh
- Mr. Balram Singh
- Mr. Fakir Ram
- Ms. Hema Agri
- Ms. Raduli Bora
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- Mr. Kumud Pant
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- Ms. Malti devi
- Ms. Kamla Bora
- Ms. Geeta
- Ms. Anuli Devi
- Mr. Govind Singh Bora, Digoli



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Rajnish Jain

Secretary

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Jo Mc Gowan Chopra

Member

Kalayani Sethuraman

Member

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Ms. Parker Camille

Mr. Anshul Shingha



#### Summarized Financial Results 2017-18

#### **Balance Sheet**

Sources of Funds	
Capital Fund	82,40,399.90
Utilised Grants for Fixed Assets	3,73,92,507.00
Secured Loans	11,87,503.00
Unutilised Grants/Donation /Awards & Intt.	2,49,49,080.28
Current Liabilities	28,10,322.58
TOTAL	7,45,79,812.76
Application of funds	
Fixed Assets	4,17,89,135.56
Cash/Bank	2,81,58,383.75
Closing Stock	5,89,694.00
Other Current Assets	40,42,599.45

#### Summarized Financial Results 2017-18

#### Income & Expenditure

Unutilised Opening Balance		
Local		29,81,017.34
FCRA		1,46,63,480.81
Income		
Local		
Grant	41,86,482.00	
Solar Income	1,22,293.59	
Donation/Award	7,02,557.00	
Interest	3,13,657.00	
School Fee	80,135.00	
Other Income	4,31,822.62	
Closing Stock	5,89,694.00	64,26,641.21
FORA		
FCRA	2.47.44.400.00	
Grants	2,17,14,196.00	
Donation	2,64,324.62	0.00.00.000.00
Interest	12,41,869.00	2,32,20,389.62
TOTAL		4,72,91,528.98
Expenditure		
Local		
Opening Stock	7,07,649.00	
Grants	55,86,752.95	
Solar Expenses	1,11,805.00	
School Expenses	2,68,528.00	
Other Expenditure	16,14,138.16	
Depreciation	3,46,541.00	86,35,414.11
FCRA		
Grants	1,47,23,741.54	
Award	-	
Donation	1,21,895.00	1,48,45,636.54
Unutilised Grants/Donation/Awards		
Local		16,01,353.39
FCRA		2,29,85,334.89
Interest FCRA		52,899.00
Income for the year		(8,29,108.95)
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