

Non-Profit Organization  
providing Assistance to the  
Physically Challenged in  
India for Education and  
Income Generation

# ASHRAYA

*Hey Look! The pine tree is bending  
Over the rocks like a frail old man blessing  
A burly child with his stick,*



*The scorching sun whips its back,  
And the heat smack§ its branches,  
Shaking off crumbled leafs of shade  
That scramble for refuge in craggy folds.*

*As God's children go on a star-hunt,  
The world of ASHRAYAs stands on its head,  
A top spinning in perfect harmony.*

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## **ASHRAYA 2010 Project for Funding** ***Rural Mobile Science Lab***

### **I. Introduction**

This is a document prepared by ASHRAYA describing the project Vidnyana Prasarini, a Mobile Science Lab project in Gulbarga District, Karnataka. This project will be executed by Nutana Vidyalaya.

ASHRAYA is a non-profit organization incorporated in the US, established in 1991 with an aim to provide assistance to the physically challenged and rural communities in India in the areas of education, vocational training and income generation. Our focus is on various challenges such as visual, aural, mobility, learning and rural poverty; and on different age groups, i.e. education for children, vocational training for teenagers and income generation for adults. We strive to use **assistive technologies** wherever feasible so as to increase sustainability and leverage. ASHRAYA is registered in the state of New Jersey and has obtained tax-exempt status from IRS (Tax ID 52-1791311). Beneficiary organizations we have worked with in the past include National Association for the Blind (NAB), Blind Persons Association (BPA), Madhya Pradesh Blind Welfare Association (MPBWA) and Mobility India. Over the last few years, we have focused on rural based and smaller organizations so as to increase impact. ASHRAYA works strictly under the following guidelines/edicts:

- 1) We do not donate money to a general cause nor support organization level operational expenses
- 2) We do not deduct any overheads during fund disbursement (i.e. founders absorb all overhead expenses)
- 3) All funds are used to purchase aids and equipment for direct usage by beneficiaries
- 4) We solicit only project-specific and not general funds from donors and sponsors

Total project specific disbursements in the years 1992-2009 has been \$177,789 out of which \$153,476 is direct funding (project specific funds directly disbursed to beneficiary organizations) and \$24,313 is pass-through funding (beneficiary organization specific funds passed through ASHRAYA). Project funding includes joint funding from partner organizations (America India Foundation in the years 2003-2006) worth \$44,012. The numbers shown above do NOT include one-time funds raised and disbursed for Tsunami Relief in the years 2004-05 worth \$62,000. Average direct project funding per year in the last 6 years (2003-2009) has been \$16,871 (\$10,587 without considering partner funds). The average project size for non-partner funded projects has been \$2,195 and for partner-funded projects has been \$14,388, thus showing significant increase in leverage and scale from partnerships.

### **II. Beneficiary Organization Summary**

Nutana Vidyalaya Society (<http://nutanvidyalaya.org/home/profile.htm#1>) was established in 1907 with focus on education in the district of Gulbarga, Karnataka. Today the society to its credit has a number of educational institutions including two High Schools exclusively for boys and one for girls with another English Medium High School. Kannada and Marathi have been medium of instruction. The society which was imparting education, to the students only up to high school, started seriously thinking of having a per University College and accordingly the per University college was started In the year 1969. The society being, not satisfied with this progress, ventured to

establish a Degree college in the year 1979 with Arts and Commerce faculties to begin with. The Science faculty was added to it. The society is also running one Polytechnic institute. Once a child is admitted to nursery class in the society premises it can from the campus with youthful energy and as a graduate in any of the disciplines. There are more than 5,000 students with more than 300 trained and experienced teachers on the campus of the society from per primary to the degree level the society has added B.Ed and D.Ed. College to its family of institutions. The Nutan Vidyalaya Society has contributed eminent personalities to the society and the nation in different walks of life.

NV Society started the Vidnyana Prasarini project in 2001 with the intention of running a Mobile Science Lab (MSL) that provides complementary lab-based education to rural high school students. In the last 8 years, Vidnyana Prasarini has covered 650 rural high schools benefiting 90,000 students, in the districts of Gulbarga, Bidar, Raichur, and Koppal. For more information, please contact Mr. Gautam Jagirdhar, Project Coordinator, Vidnyana Prasarini (+91 9844230962) or at Nutana Vidyalaya Society Office, N. V. College Campus, Gulbarga 585 103.

### **III. Background and Context**

Most rural secondary schools have grossly inadequate science laboratories. Students often learn science without performing or even observing a single experiment. The concept of the Mobile Science Lab was pioneered by Vidnyanvahini, a non-profit organization based in Pune, Maharashtra. Vidnyanvahini was started by Dr. Madhukar Deshpande, a professor in chemistry from University of Wisconsin upon retirement and return to India. Vidnyanvahini reaches out to rural school children and offers them a means of learning science through laboratory experiments. To accomplish their objective, they started a Mobile Science Lab (MSL) in 1995 and have been successfully running it since then in districts surrounding Pune. After proving this concept successful, Dr. Deshpande helped set up a similar MSL in Gulbarga in association with his alma mater NV Society, Vidnyana Prasarini emphasizes to students that in general, things should not be accepted as facts just because they are stated in a book. Instead, they should be verified by observations and rational conclusions drawn from such observations. The MSL conducts science experiments and displays educational videos for high school children already enrolled in rural schools. The MSL van stops at scheduled locations throughout the year to provide this complementary educational service. About 90,000 high school students have benefited from MSL's visits and workshops in the last 8 years. Typically, members of Vidnyanvahini together with local science teachers interact with 70-80 students on any given day. The students watch and perform 20-25 short experiments. Schools are selected based on their need, size and location. Vidnyana Prasarini in consultation with the school authorities schedules 2 trips to ~100 schools per year. The experiments are chosen primarily for 8<sup>th</sup>-10<sup>th</sup> grade students. 5-6 teacher workshops are held on a yearly basis.

### **IV. Past History with Beneficiary Organization**

ASHRAYA supported Vidnyanvahini in Pune for 2 years (2004-2005). We purchased 6 educational videos and got them dubbed into Marathi using the services of a video production agency in Mumbai. These videos are currently being used by Vidnyanvahini in its MSL. ASHRAYA also supported Vidnyana Prasarini in the years 2005 by purchasing equipment for upgrade of MSL as well as provided educational videos dubbed into Kannada.

NV Society has been running the Vidnyana Prasarini MSL from 2001-2009 using funds from Swami Ramanand Teerth Institute for Socio-Economic Change (SRTISEC). In fact, SRTISEC ran the MSL for NV Society. However, in 2009, SRTISEC expressed inability to fund and run the MSL hence necessitating NV Society to seek funds from other sources such as ASHRAYA.

### **V. Project Description**

#### **1. Project Overview**

This project is to support to operating expenditure involved in running the MSL for 1-2 years till NV Society can mobilize funding using local sources. The MSL van is already in operational condition (and has been so for 9 years now) in fully equipped with a TV monitor, educational videos, science lab equipment and materials, furniture and science books. The MSL visits one rural school every day (starting in the morning from its hub Gulbarga, visiting the school through the day and returning back to Gulbarga by evening). The MSL covers 5 schools per week and over a year's time, conducts a total of 200 trips. These trips cover 100 schools per year with 2 trips to each school per year. The average size of each school (8<sup>th</sup> to 10<sup>th</sup> standard only) is 75 – thus the MSL can cover 7,500 students per year. The MSL is staffed with 4 full-time employees: 1 coordinator, 1 driver

and 2 science teachers. The goals of the MSL are

- i. To promote scientific temper in rural high school children
- ii. To teach science through lab work
- iii. To complement existing science education in rural government schools through experiments

## 2. Project Expenditure

The total annual operating expenditure for the MSL is Rs. 336,440. NV Society will cover 50% of the expenditure on its own and is looking for 50% support from funding agencies (Rs. 168,220 or \$3,656).

Expense Parameter	Unit	# of Units	Unit Rate (Rs)	Costs (Rs)
<b>A. Capital Expenditure</b>				
Lab Materials and Chemicals (Expendables)	Per Unit	1	10,000	10,000
<b>B. Operating Expenditure (Per Batch, 10 Months, 15 PWDs)</b>				
<b>I. Human Resources</b>				
1.1 Coordinator	Per Month	12	4,000	48,000
1.2 Two Science Teachers	Per Month	12	10,000	120,000
1.3 Driver	Per Month	12	4,000	48,000
<b>Subtotal Human Resources</b>				<b>216,000</b>
<b>II. Running Expenses</b>				
2.1. Housekeeping and Cleaning	Per Month	12	500	6,000
2.2. Diesel (100 Schools = 200 Liters @ 6 Kms / Liter x Rs. 42.22 per Liter)	Per Liter	200	42.22	84,440
2.3 Van Maintenance	Per Year	1	15,000	15,000
2.4 Miscellaneous	Per Year	1	5,000	5,000
<b>Subtotal Equipment and Supplies</b>				<b>110,440</b>
<b>Subtotal Local Office/Action Costs</b>				<b>24,000</b>
<b>Total Operating Expenditure per Year</b>				<b>336,440</b>
<b>X Expected Contribution</b>				<b>50%</b>
<b>Total Expected Contribution from Funding Agencies</b>				<b>168,220 (\$3,656)</b>

## 3. Impact Summary

7,500 students per year will

- Acquire skills to conduct science experiments on their own
- Watch educational videos on key scientific subjects such as super nova and periodic tables
- Develop a scientific temper towards life and stay away from superstitious beliefs
- Improve their performance in exams related to science
- Develop curiosity to learn on their own

## 4. Key Monitoring Indicators

- Number of trips made per year
- Number of schools visited per year
- Number of high school children impacted by MSL per year
- Number of experiments conducted during MSL visits
- Improvement in science exam scores across all high school students as recorded by MSL

## VI. Summary

This is a document prepared by ASHRAYA describing the project Vidnyana Prasarini, a Mobile Science Lab project in Gulbarga District, Karnataka. This project will be executed by Nutana Vidyalaya Please contact Vasuki Subbarao (+91 997 203 1318 or +1 630 270 2056) for further details on this project. If you would like to contribute towards this project, please make a check in the name of ASHRAYA, and mailed to D-1004, Laburnum Block, Brigade Millennium, JP Nagar 7th Phase, Bangalore 560078, INDIA. The ASHRAYA tax-ID number to be used in your tax returns is 52-1791311 (US only). We will send you receipts for the received contribution right away. We look forward to hearing from you.

## **APPENDIX I. Photos and Press Clippings from Vidnyana Prasarini**

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1/12/2009

# Mobile lab, a boon for rural students

## Mobile Science Laboratory enables rural area students perform experiments

Srinivas Sirnoorkar

**GULBARGA:** When Dr Madhukar Deshpande retired as a mathematics professor from Marquette University, America, in 1994 he could have settled and led a comfortable post retirement life in the US. But the inherent urge in him drove him to Pune, Maharashtra, where he wanted to harp upon some educational project which would be of good help to rural students.

Inspired by a mobile laboratory doing an excellent work in rural areas of Pennsylvania in US, Mr Deshpande along with his mathematician wife Pushpa Deshpande did not lose time in launching the 'Vijnan Vahini', a Mobile Science Laboratory, to cater to the practical science learning needs of rural students of Maharashtra.

Started on a modest scale with the help of friends and well wishers and certain institutions in 1995 the 'Vijnan Vahini' has now grown leap and bounds covering about three fourths of rural Maharashtra. It has become the heart throb of high school students in Maharashtra earning laurels from all sections of the society. Recognising the excellent work done by the



"Few godmen claim to create something out of nothing. The hollow-ness of these so called miracles is also exposed to students"

mobile laboratory the Canadian International Development Agency (CIDA) funded the project for three years and later it has been surviving on public philanthropy and also the own funds of Deshpande couples.

The 73-year-old Gulbarga born and brought up Madhukar Deshpande was always feeling uneasy despite successfully launching the ambitious educational project in Maharashtra with his conscious pricking to do something for his native Gulbarga.

Mr Deshpande who studied up to intermediate in the Nutan Vidyalaya Society institutions of Gulbarga did his MA (Math-



**MOBILE UNIT:** Students seen performing experiments in the Mobile Science Laboratory 'Vijnan Prasarni.' DH PHOTO

ematics) from Pune and his doctorate from Wisconsin University US.

After a three decade long teaching career in US he took retirement in 1994. He could not feel comfortable until he stepped into Gulbarga in the year 2000 to launch 'Vijnana Prasarni', another Mobile Science Laboratory.

The 'Vijnana Prasarni' was

run by the Swami Ramanand Teerth Institute of Socio Economic Research and National Integration, Gulbarga, about seven years and about year back it was fully handed over to the N V Society for sustained and effective operation.

The mobile lab has become a boon for the high school students of rural areas of not only Gulbarga district but the whole

of Hyderabad Karnataka area comprising three other districts Bidar, Raichur, and Koppal.

The laboratory enables rural students and specifically those from Kannada medium schools to perform the experiments in Physics, Chemistry, and Mathematics according to their syllabus.

It has proved a roaring success as there is a growing de-

mand from every school in the region. Mr Deshpande is very particular about catering to the needs of government and private Marathi medium schools in Maharashtra and Kannada medium schools in Karnataka as rural students are by and large deprived of laboratory facilities.

"The mobile lab not only help rural students perform experiments but also inculcate scientific temperament which is very essential," said Mr Deshpande. In the last eight years the laboratory has covered over 650 high schools benefiting about 90,000 students. It is equipped with all the necessary laboratory equipment and chemicals, a water tank, a video screen, first aid box, etc. The N V Society management has been supplying all the materials required to keep the show going.

Mr Deshpande says that apart from making students learn science through experiments the mission was also aimed at sensitising students against the exploitative superstitious beliefs and practices. "Few 'godmen' claim to create something out of nothing. The hollowness of these so called miracles is also exposed to students through experimentation," Mr Deshpande said.

DH NEWS SERVICE