Activity Report 2013

Rain Drop Organization

RAIN DROP
WATER IS LIFE

© Jérémie Lusseau

SUMMARY

We aim to improve living conditions through the sustainable management of natural resources.

Table of Contents

Introducing Rain Drop

Legal Information on Rain Drop

Name: Rain Drop

Title: Association loi 1901 (Registered in France)

Objective: To improve living conditions through the sustainable management of natural resources

Registration

Registered on the 2nd March 2010 in Paris

Changed headquarters on the 23rd December 2010 to Grasse

Board :

President : Alexis Roman
Secretary : Charlotte Izard
Treasurer: Malek Ouahes

Contact :

Rain Drop
9 Traverse du Chemin de la Coste d'Or Supérieure
06130 Grasse France

e-mail : info@rain-drop.org
website: www.rain-drop.org

Message from the President

“The third year of our projects in India marked a significant change in the development of Rain Drop. We designed a 28-month long project called "Spring of Life" launched in September 2013. This two year project for which funding is already ensured gives us the possibility to deepen and diversify our areas of action, while simultaneously strengthening the skills of our team in the field. A regular follow up with the project beneficiaries during this period will induce the changes in attitude and behavior required for the sustainable management of natural resources.

This year also marked the strengthening of the Indian team with the arrival of two new employees in addition to Ashok Sarwade and Bablu Prasad: Ramesh Chandra and Diwakar Mishra. Ramesh Chandra is our agricultural specialist, and Diwakar Mishra is responsible for administrative management. Becoming increasingly independent, they decided to create an autonomous Indian NGO called “Rain Drop India.”

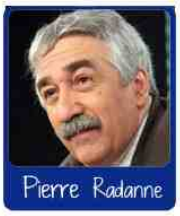
Rain Drop was also pleased this year to welcome active and invested new volunteers in India. Their enthusiasm and motivation enabled us to explore new activities to further diversify the scope of our actions. More details on these new projects will come in the following months!”

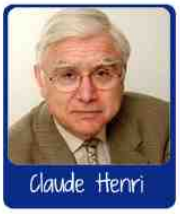
Facts and Figures for 2013

4 years of existence
47 members
1 permanent volunteer
4 employees in India
14 villages mobilized
14 innovative irrigation systems installed
2314 trees planted
7 volunteers in France
20 interventions in various schools in France

The Rain Drop Team

Council of Elders

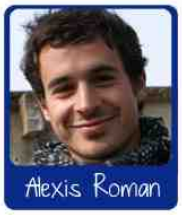




The Board

Treasurer

President Director



Secretary

Project Managers

France director

India director

French Team

Project coordinators

Indian Team

Project coordinators

Communications Team

Webmasters

Communications Officers

See: www.rain-drop.org in « Our Team» for more information.

Partners, Sponsors and Supporters

Public

Private

OUR PROJECTS

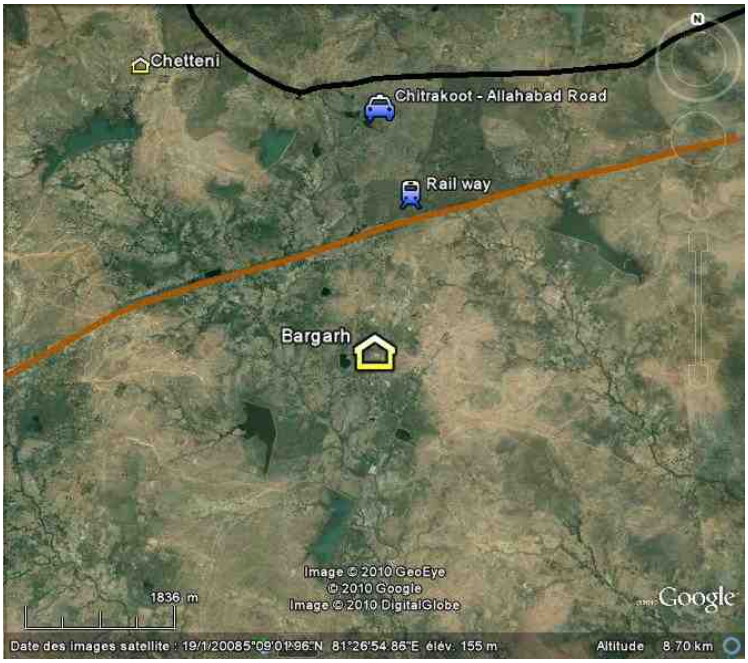
INDIA

Regional Context

Location

Mau is located in the Bundelkhand region of India (in red on the map). The town straddles two states: Madhya Pradesh and Uttar Pradesh. The Bundelkhand is known for its lack of infrastructure in education, sanitation, health and transport. Practices of good governance are rare and economic development remains extremely low, making this region one of the poorest in India.

Bundelkhand region, India
Source : Wikipedia



Positioned southeast of Uttar Pradesh, between the cities Chitrakoot (50 km) and Allahabad (60 km), Mau (Bargarh on the map) is surrounded by 42 small villages. It is with these small communities that we work.

As shown in this satellite picture, the vegetation cover has entirely disappeared. Our work focuses on areas where deforestation has led to soil degradation, leaving an arid and barren environment.

Environment

Forty years ago, Mau was a lush forest rich in biodiversity. Unfortunately, high population growth and inadequate government policies have accelerated deforestation, transforming the region into a barren landscape.

Mau now suffers from desertification. Soil erosion has left the land dry and rocky, making farming increasingly difficult. Trees have disappeared, while the levels of organic matter and soil porosity have decreased. It is difficult for rainwater to seep into the ground, resulting in soil erosion and large amounts of runoff during heavy rains.

Rain Drop's projects were initiated at the request of villagers who have suffered regular droughts in the last 10 years. Mau has entered a vicious cycle of environmental degradation, exacerbated by the only alternative form of income in the region: mining.

Last testimony of the dense forest of Mau which is now a semi-arid landscape

Economy

The main activity in the region of Mau is agriculture, as 92% of the villagers depend solely on subsistence farming. However, soil erosion and the lack of water resources are major obstacles in the lives of farmers. Those who cannot survive off their land are forced towards other forms of labor such as breaking stones for up to 8 hours per day. Others work in silica mines, which cause both joint and respiratory problems. Many local youths leave their families to find work in the city. The lack of diversification of economic activities leaves few alternatives for development.

Social

Eighty six percent of the population of Mau consists of indigenous populations and farmers from the lower castes. Most of these people previously worked in debt bondage on upper castes' land. After the declaration of independence and following the Gandhian movements of the 50s and 60s, these people were given land to settle down. Although they have obtained physical freedom, the condition of servitude still remains deeply rooted in attitudes and in daily life. They have no exposure to entrepreneurship, nor the means to ensure the effectiveness of their rights.

Landless villagers or those who cannot use their land are forced to work in open mines.
A woman and her daughter break stones by hand to make silica sand.

Activities in India

1. Construction of a Tree Nursery

Deforestation is a major cause of the drought that plagues the region. Our projects intend to motivate people to reforest their land. The closest tree nursery being over two hours drive from Mau, it was essential to establish a permanent structure that would allow villagers to easily obtain supplies and high quality plants.

Therefore, we built a nursery on the field of a villager who pioneered the local creation of orchards, Ramesh Chandra. Now owning the nursery, Ramesh and his family are responsible for its maintenance and development. He was trained in basic agro-ecology: using seeds from fruits to make new shoots and the production of natural pesticides (for example using Neem leaves).

Ramesh's wife plants the first shoots.

We started the nursery with 7,970 trees.
By end 2013, Ramesh and his family increased the tree nursery with 16 624 new shoots.

The nursery covers an area of 500 m^2, which we have protected with fences. In September, it was extended with an additional 1300 m^2 of land.

The soil is very fertile, and the shoots are well adapted and have grown rapidly. The first few were planted directly in soil. However, to avoid the trauma of uprooting, we then grew the plants in plastic bags.

To relieve pressures from the drought, we installed sprinklers, which allows for more efficient irrigation and consumes less water.

Through the efforts of Ramesh and Rain Drop, once the monsoon rains arrived, the trees grew well. Some of them already measured over 150 cm in height.

The nursery and information panels that we installed received a positive response: Ramesh already sold 3,385 trees during the planting season in August 2013.

Tree type	Scientific Name	Total sold end august 2013
Amla / Indian gooseberry	Phyllanthus emblica	755
Guava	Psidium guajava	1675
Carissa carandas	Carissa carandas	689
Lemon tree	Citrus limon	135
Pomegranate	Punica granatum	86
Jackfruit	Artocarpus heterophyllus	41
Custard apple	Annona reticulata	4
Total		**3385**

Sprinklers in the tree nursery

2. Selection of Villages and Families

We selected the project's villages according to the following criteria:

- Belongs to the lower castes
- Receives no help from other organizations
- Has a real need of our support
- Demonstrates an interest in our projects

Meeting in the village of Guruha Purwa

We then selected families according to:

- Family needs
- Potential of the land
- Ability to implement the activities
- Motivation of the family

Visiting Bablu Lal's land in Chuhuda

It is crucial to take the time to choose suitable villages and families. Without the involvement of the latter, the projects will be difficult to implement and will not be sustainable. It is also essential for the beneficiaries to have a sense of ownership over the activities. The choice of villagers for the pilot project was even more important as they would set an example for the others.

- Who wants to participate in the Rain Drop Project ?
-Me !

During 2013, we worked in 14 villages and 63 families around Mau. To identify them, we observed more than one hundred plots of land and discussed with numerous people to understand their needs, expectations and determine the resources they have.

3. Training of villagers

Following the mobilization efforts of the Rain Drop team, the chosen participants attended an informational meeting on the project. At this meeting, we presented the project and the team, and then brought the participants to the fields to see the results of our past activities. This exposure visit allowed them to observe concrete achievements and potential benefits.

We took the opportunity to introduce them to the SRI technique (System of Rice Intensification).

Visit of a SRI field in the village of Maharaja

See next section for details on the technique.

Training with Mr. Sudama in the village of Guruha

In August and October, we conducted technical trainings on SRI, specifically geared towards the two planting seasons: rice and wheat. Mr. Sadama, an expert in this technique, came to demonstrate in the villages of Maharaja and Guruha.

The Rain Drop team then proceeded to train other farmers in each of the 14 villages around Mau. The training focused on methods of separating the good quality seeds from the bad, as well as SRI planting techniques. We then accompanied them to ensure that they could put what they learned to practice. The farmers were instructed to call a member from our team before planting their seeds, so we could verify that all the criteria have been met.

Ramesh from the Rain Drop Team shows a farmer how to plant his chick peas.

4. SRI and SCI

SRI (System of Rice Intensification) and SCI (System of Crop Intensification) are techniques used to increase agricultural production while using less seeds, less water and fewer pesticides. Originally invented for rice (hence the name), these techniques can also be adapted to other crops and vegetables.

The yield of the SRI (right) technique compared to the traditional technique (left) is clearly visible.

We obtained very good results with rice during the October 2013 harvest. In the same surface area, the farmers produced two times more rice using the SRI technique when compared to farmers who used the traditional method.

Measuring the weight of rice on a plot of $1m^2$, we obtained 424 g with the traditional method and 964 g with the SRI technique.

Distribution of seeds to farmers

SRI rice stems

We then used this technique for crops such as wheat, chickpeas, mustard, onions, peas and other vegetables.

After the rice sowing, we distributed 412 kg of seeds that were planted onto 28 hectares of land owned by 89 families.

5. Innovative irrigation systems

Environmental disruptions related to climate change and deforestation have rapidly degraded the area. The inhabitants of Mau have not had time to adapt their farming practices. Although they are in a poverty-stricken area that suffers from recurrent periods of drought, the villagers still use flood irrigation.

This practice, now unsuitable for the new environment, represents both a huge waste of water (high evaporation rate of water) and high financial costs (cost of gasoline for motor pumps).

Flooding irrigation

Many states in India such as Maharashtra, Madhya Pradesh, and Tamil Nadu have long adopted drip irrigation systems and sprinklers.

We took into account the specific circumstance of each family: the presence of a motor, drilling, well capacity, distance of land, surface irrigation and desired cultures. Following numerous discussions with beneficiaries, we have put the systems below in place.

All the techniques we have implemented are new in the villages of Mau.

Irrigation Technique	Quantity	Name of family	Village	Irrigated area (m^2)
Drip irrigation system with a bore well	2	Ramniwaj	Guruha	3600
		Mankamana	Guruha	4125
Drip irrigation system with a motor pump	1	Biharilal	Lasahi	6600
Drip irrigation system with a tank	7	Nanku Prasad	Panihaï	3445
		Badaï	Chetteni	1856
		Shankarlal	Kechuhat	2520
		Bhaiyalal	Bhatgaon	916
		Dwarika	Bhatgaon	900
		Anurudh	Bojh	5256
		Babbu	Maharaja	2310
Sprinklers with a motor	4	Hari Prasad	Dolia Purwa	1395
		Ram Pratap	Kechuhat	1156
		Chotkau	Kechuhat	784
		Ajis Kumar	Panihaï	3445
Total	**14**	**14**	**11**	**38308**

Drip irrigation system connected to a bore well

Two families in the village of Guruha – Ramniwaj and Mankamana – have a bore well on their land. Drills are rare in the villages of Mau due to lack of technological access and rocky ground. However, they pump greater amounts of water in order to irrigate large areas. We have improved water management by connecting the existing drilling pipes to drip irrigation systems that will increase the irrigated area and reduce the waste of water (compared to traditional flood irrigation methods). Both systems installed will irrigate respectively 3,600 m^2 and 4,125 m^2 respectively.

Construction of a tank in the village of Chetteni

Drip irrigation system connected to a motor

One of the selection criteria for the drip system is that families have a well with water all year round (as many wells run dry between April and July) and a pump to draw water.

Bihari Lal from the village of Lasahi has large areas to be irrigated (6600 m^2). It was therefore possible to directly connect the drip irrigation pipes to a pump.

Drip irrigation system connected to a tank

In contrast to the families of Nanku Prasad, Shankarlal and Badai had cultivated areas that were too small for drip to motor pump systems. Their land areas range from 1,500 to 3,500 m^2. It was therefore more appropriate to build a tank. In this manner, water is first pumped from a well into the tank, and then transported by gravity to the crops. The tank contains between 8,000 to 10,000 liters of water.

An additional valve was also installed so that families can benefit from the tank water (e.g. for washing or livestock) easily without having to draw water from the well.

Tank for drip irrigation with a valve

Sprinklers

On the lands of Ajis Kumar, Hari Prasad, Ram Pratap and Chotkau we installed sprinklers that were connected directly to a pump. Sprinklers are especially useful for fields with grain (rice or wheat), but can also be used for vegetables.

Ajis Kumar and his new sprinkler system in Panihaï

Foot pumps

For farmers like Vijay Kumar of Adjadpurva village, who have good wells but no pumps, we installed foot pumps. Due to their reduced scope, foot pumps are especially useful for small-scale kitchen farms, close to the water source.

Irrigated land is mainly used for vegetable farming. We encourage farmers to produce a greater variety of vegetables to increase food diversity and market competitiveness.

6. Installation of protective fences

Free grazing is one of the biggest challenges for the local farmers. During the months of May to July, cattle are left to roam freely and eat wherever they find food. The green fields of farmers provide a haven, especially during the dry months.

With the help of the beneficiaries' families, we therefore installed stone pillars and barbed wire.

The fences will allow farmers to make an additional harvest during the dry months. During the rest of the year, they will no longer have to sleep in their field to ensure that animals don't eat their crops.

11 families benefited from protective fences:

Bhatgaon → 2 families
Bojh → 1 family
Maharaja → 3 families
Satyanarain Nagar → 1 family
Laxmipurva 4 families

The goal of the fences is not only to protect the land, but also to allow the families to increase their income.

We encouraged the farmers to have an additional harvest during the dry months.

We trained them in water-saving techniques such as mulching. It has proven to be very efficient in this hot and arid region.

Dashrath, from the Bhatgaon village (*right*) told us that during the hottest months he only had to irrigate his eggplants 4 times a week, whereas he had to irrigate them daily before.

Mulching under the eggplants

On the left, an unprotected land, barren and dry. It is subject to wind erosion and cattle grazing.
On the right a protected land. The soil is shaded and humid. Erosion is decreased and the fertility preserved.

The difference in agricultural potential is clearly noticeable between protected land and unprotected land.

Due to fences and mulching, farmers managed to grow eggplants, potatoes, lady fingers and corn, such as Setani on the picture below.

Farmers benefit from greater food diversity and output during the dry months. They can also sell their harvests at above market prices as market supplies are low and the demand high.

7. Check dams

Laxmipurva is one of the most isolated and poorest villages surrounding Mau. The land is arid, rocky and of poor quality. For several years, the villagers have been asking for our support.

Meetings in the village of Laxmipurva. There is a high rate of participation, especially from women. However, any project is difficult to implement due to the extreme poverty of the people.

We suggested the construction of a cement check dam as well as several stone ones. This favors soil retention and slows the flow of water without completely blocking it. In this way, fertile land is accumulated in the fields.

The loose boulder dam we constructed in the village of Laxmipurva helped farmers increase land used for agriculture. The stones stopped water and sediments, providing a fertile soil in which to plant rice.

We built 5 stone check dams. They retain water and sediments, converting unused land into agricultural land.

We also built a stone check dam on the river Palna. This water retention structure slows down the flow of water during the monsoon. As such, the water can percolate into the soil, irrigate the surrounding fields and recharge underground aquifers.

Stone check dam to slow water flow and help it infiltrate the soil

Check dam on the rive Palna

Finally, a little further down the river, we built a cement check dam.

We also deepened the river in order to increase the catchment area. The water retained will allow 11 families to irrigate their land.

The check dams have an additional purpose. They facilitate the crossing of water pools during heavy rainfall.

Two young men use the check dam to cross water

8. Tree planting

Towards the end of the monsoon, between August and September, we planted 2,314 fruit trees.

Tree type	Scientific name	Total planted
Amla/ Indian gooseberry	Phyllanthus emblica	634
Guava tree	Psidium guajava	889
Carissa carandas	Carissa carandas	572
Lemon tree	Citrus limon	116
Pomegranate	Punica granatum	79
Jackfruit	Artocarpus heterophyllus	23
Custard apple	Annona reticulata	1
Total		**2314**

In the villages of Bojh and Laxmipurva, we experimented with a new technique, which involves planting supporting trees (pioneer species) near the fruit trees. These pioneer trees grow quickly and are well adapted to drought and harsh conditions. They help the fruit trees grow by providing shade during the warmer months and creating organic matter while fixing nitrogen in the soil. We planted 40 of these trees.

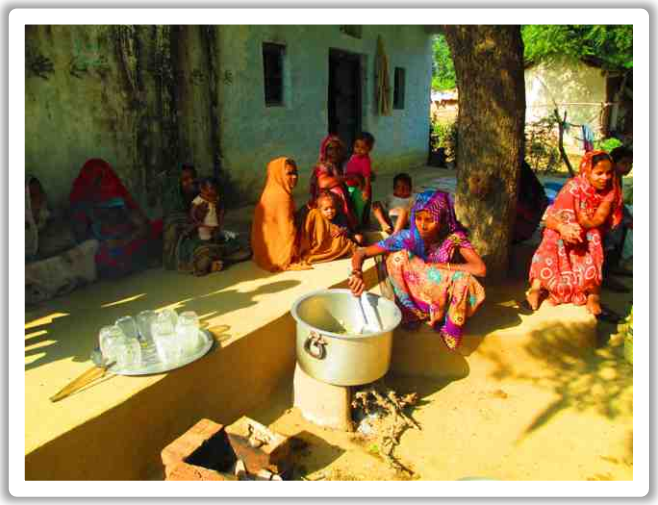
9. Jam Manufacturing

A major goal of our project is to develop the autonomy of women through income-generating activities. We started our activities with the village of Kitahaï. Situated at the border of Madhya Pradesh, this village is particularly remote. The villagers, all Kols, have received land more than 2 km away from their villages. Agriculture is therefore difficult.

The women, veiled during the first training, lifted it during the following ones

We trained the village women to manufacture jam using guava and amla fruits. Very quickly, the opportunity to develop new skills and earn an income became a source of enthusiasm for the women.

Starting from the second training session, the women made their own jam, carefully selecting which spices to include.

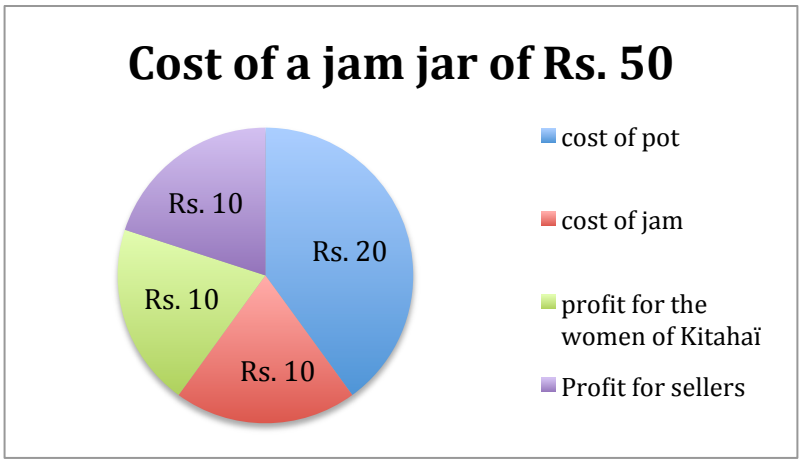


Gulab mixes the jam

The villagers enjoy the jam parathas

We then sold the jam as a spread on parathas (a type of lightly fried chapatti bread) at the Mau market. Everything was gone within one hour and thirty minutes!

Following this success, we organized a meeting between the women in Kitahai and the female vendors in Mau to determine a good marketing strategy and to fix the selling price. They agreed on 50 rupees per pot, which amounts to approximately 0.60 Euros.



The women of Kitahaï with their jams

We conducted our first sale in the market of Mau. The nine pots that we brought were gone in less than 30 minutes!

We gave other pots to fifteen students from the French school of Delhi who came to visit us for a cultural exchange program. The rest of the pots are being sold in guesthouses in Delhi to publicize *Devaduth*, the jam of Mau.

10. Building chicken coops

Ten years ago, there were numerous chickens in the villages of Mau. Kol tribes and the Muslim population in nearby towns are not vegetarian (unlike the majority of Hindus), so they do consume eggs and chicken. Unfortunately, most of the chicken population succumbed to an epidemic and poultry rearing was never resumed.

Urmila Devi from the village of Chetteni in her chicken coop

Poultry is therefore a potential source of income for the Kol people, who are at the bottom of the social and economic ladder in the region.

We decided to set up poultry farms in two Kol villages: Adjadpurva and Chetteni.

After training two families on poultry-rearing practices, we built chicken coops. The coops measure 2m x 3m with a height of 2m. We then provided 25 chicks to each family and the necessary feed. For the first stage, we are focusing on raising chickens for egg production rather than for their meat. Both barns will serve as models for other villagers who may be interested.

11. Cooperating with the Indian government

In order to ensure the sustainability of our projects and have a greater impact on the villagers of the region, it is necessary to establish strong links with the local government. Many government programs exist to benefit the poor, but the money rarely ends up in their hands. This is why we strive to inform local authorities of our projects and invite them to see results on the ground.

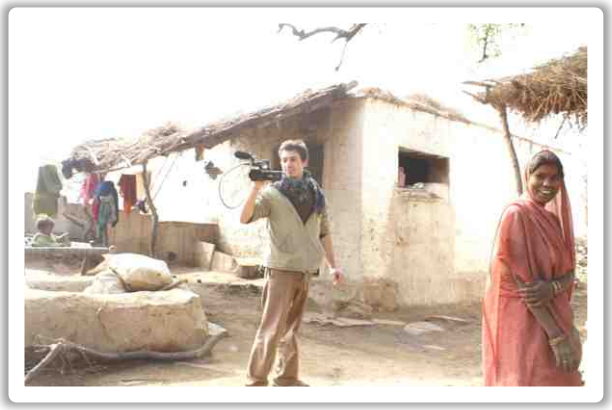
We welcomed a visit from the Superintendent of Chitrakoot's District Police and the NREGA Commissioner. The latter manages the rural employment program for the entire region of Chitrakoot. It funds projects similar to ours but with more resources, such as the construction of retention ponds, bunds, check dams and tree planting.

The Super Intendent of Police and the Commissioner enjoy our jam.

FRANCE
Activities in France

Directing and Editing a Documentary

We documented the lives of two children from the local Kol tribes. Following Rohit (6 years) and Mahima (8 years), we filmed their daily activities: awakening, morning preparations, school games in the afternoon, and evening.



Shooting of the movie in the house of Ram Bihari and Shanti, from the Chetteni village

In September 2012, the film "*If you were born in a village in India…*" was finally ready to be shown.

Mohit, the film star, at home, surrounded by his brothers, sister and cousins.

After the first screening, we corrected small sound and image errors, completing the final product in January 2013.

Interventions in schools and colleges

Once the documentary was ready, it was time to share it.

To engage students, we distribute a quiz, to which they answer before seeing the film. All the answers are in the movie.
To support our work with concrete examples, we also share our experiences in India through a photo presentation.

Intervention in a high school

During our presentation, we discuss various issues of sustainable development such as:

- Environmental degradation and its impacts
- Potential solutions
- Solidarity and eco-friendly attitudes: what can students do at their level?

We tailor our interventions to the students' age and the demands of the teacher or school. The main objective of the documentary is to make students think about notions of cultural diversity, solidarity and sustainable development. We foster awareness so that the beneficiaries of our actions can learn to think about the world in a more holistic manner. We encourage communities to integrate and understand the impact of our daily actions, and to act accordingly while respecting each other and our environment.

Rain Drop's stand during the Nature Festival

Interventions with the general public

Engaging in new paths of development will require the commitment and awareness of all. We therefore adopt a holistic approach that also includes the public at large.

We participated at several events in the PACA region, such as the Fete du Canal de la Siagne (the Siagne Canal Festival) in Grasse and the Fete de la Nature (Nature Festival) in Mouans-Sartoux. Our fun and educational booths include photos, informational flyers and activities such as:

- Drawing workshops (to exchange with Indian children)
- A presentation of drawings made by Indian children
- An environmental quiz
- "Listen to Water" (where participants can relax while listening to the sound of water)
- A wishing tree
- Photographs of our projects
- Interesting discussions

Drawing exchange between french and indian children

Trainings

We gave trainings on sustainable development to 50 people in the cities of Grasse, Mouans-Sartoux and La Roquette-Sur-Siagne. We addressed the issues of development and the solutions proposed as sustainable alternatives. We then went into games and activities that teachers and animators could implement with children. The objective is to gradually conceive a change of mindset so that the future generation integrates environmentally friendly attitudes. Some of the camps in which we gave the trainings asked us to intervene in their classes to talk about India and our projects.

Surprised to know that Indian children didn't know about soccer, the 8th grade students from the high school of Saint-Hilaire in Grasse gathered their savings to buy a soccer ball.

Although we explained soccer was played using the feet, the children prefered to play with their hands

Conclusion

The Spring of Life project began in September 2013. After having successfully completed the pilot phase, we can now proceed with confidence onto the next phase.

In 2014, we will continue to extend, strengthen and develop our different activities. In India, we will work with 150 new families to continue our projects on water management, tree planting, crop diversification, economic development, and the establishment of income-generating activities for women. In France, we will continue our work in schools and colleges, as well as trainings for teachers and recreation centers. We are developing new modules regarding positive communication related to sustainable development. We also plan to film a new documentary, this time focusing more specifically on water management and awareness.

With the support of two professional photographers who came to Mau, we have established a traveling photo exhibition to honor the villagers whom we work with on a daily basis, and to discover their lives. The exhibition will first be held in Paris, pass through Lyon and Marseille, and end in Grasse.

Finally, Rain Drop wishes to make new discoveries, find new ways of sharing, and experience new cultures. Being an organization without borders and flourishing from greater diversity, we will try to provide our support to other countries. Togo is first on the agenda, with an exploratory mission in February 2014, followed by Ecuador at the end of the year.