

# Friends Indeed

A Home A School A Future



A vocational training for youth with disability to become plastic recycle operator



Future plastic recycle operators: with advanced technology at a plastic recycle factory:  
from plastic foils, to planks, to houses

**Wat te doen aan de door plastic verstikte vissersdorpen  
in India en het milieu?**

**Een plastic recycle fabriek bouwen  
die laagwaardig plastic planken en tegels maakt**

**Plus: een opleiding tot plastic recycle operator  
voor jongeren met een beperking !**

**In samenwerking met Rotary Amsterdam-Nieuwendam:  
En 15 Rotaryclubs uit 6 districten in 5 landen**



**A 10<sup>th</sup> class Campus student and the local dump**

## **Chapter 1 Vocational training plastic recycle operator**

### **1.1. Introduction**

Youth with a disability at the remote fisher villages of India has hardly a chance to find an education and a job. At the same time, the fishing villages and beaches on India's east coast are slowly but surely becoming suffocated by a thick layer of mixed plastics. The plan is:

- a vocational training for disabled youth to become a trained plastic recycle operator
- a factory to recycle low-worthy plastic foils into useful outdoor products: tiles and planks
- 3 different awareness trainings regarding the environment for 8 villages during 3 years

### **1.2. Location: at Campus Challenge**

The loation Campus Challenge, a regional facility for children and youngsters, constructed at the request of the villagers in 2008-2009 by Friends Indeed Foundation Netherlands . Local artner is the Association Saikorian. The Campus takes care of 150 children and youngsters intern and 850 children extern. There is a children village with 150 seats, an English Medium School class 1- 10. Special education, ambulant team, physiotherapy, orthopedic workshop etc. The available building at Campus Challenge. at Konnada Junction, Poosapatirega Mandal, Vizianagaram District, AP, India, is very suitable.

### **1.3. The vocational training to become plastic recycle operator**

At Campus, there already 5 vocational trainings: secretary, horticulture, stitching center, printshop, maintenance. This 6<sup>th</sup> training - for recycle plastic operator - will be embedded in the existing structure. Approximately 6 -8 youngsters will have seat per training. Basis for the selection of the students is the list of current and former students of Campus Challenge 2009 - 2023. . The youngsters know already about this program since the visit of the assessment team in February 2023. They look forward to start the work, produce the tiles and planks and see the possibilities of the material. F.i. they asked whether they can also make own designs (f.i tables, benches, small cupboards, compost bins, flowerpots etc.) Also the secretary education looks forward because the factory will need its own office, which means the youngsters of the secretary education can work there as a trainee for the phone, taking orders, marketing, arrange transport, making the bills etc.

### **1.4 Training modules**

The training will be divided in 3 parts:

1. Training in the Netherlands for 3 people (train the trainers) 7 – 10 days
2. Training on the spot when the machines arrive and are installed 14 - 21 days
3. Training of one year to become operator

The training will be jointly developed by Save Living and the staff of Campus Challenge and ends with a certificate, conform the guidelines of Save Living and the Indian Guidelines for vocational trainings.



From plastic pouches to.....



Examples of the raw material, foils and of the results: planks and tiles!

### 1.5 Target group vocational training

The numbers of handicapped youth in Pusapatirega Mandal alone are:

- Male, handicapped, age 18 – 25 132
- Female, handicapped, age 18 - 25 119

It will be made a point to see to it that the number of male and female participants in the program – in the factory and in the villages - is the same.

The target group to get this education is:

- Youth with disability living at Campus Challenge, or having followed a training at Campus 2009 – 2023, age 18 – 25, who will be trained to become plastic recycle operator, to make construction material .
- Youth with disability living in 8 neighboring villages who will assist in gathering the right plastics foils and have them transported to the factory

## 2. The plastic recycling factory

The plan is to set up a local factory in partnership with the Save Living Foundation The Netherlands:

- to bring the European knowledge about this subject to this area
- to start up the education as plastic recycle operator
- to construct the factory and get it up and running
- to use law worthy plastics as raw material, coming from fisher villages
- make construction material out of it: planks and tiles

The plastic recycling factory, technique designed by Save Plastic, offers a unique solution for plastics which are difficult to process: the lowgrade mix and foil plastics. This concerns about half of the plastic



waste in India. Save Plastics will advise and arrange the estimate for the machines for two production lines:

- Tiles 30 x 60 cm and 60 by 60 cm
- Planks 200 x 20 x 3 cm.



The factory will have a capacity of 12,5 kg per hour. Per year this is x 80%: 20.800 kg plastic. This is sufficient for 6.626 tiles of 30 x 60- cm, 3,14 kg per piece, or 1891 planks of 11 kg per piece. It is possible to upscale. The raw material is available and can be bought at sorting centers in pressed bulks of 100 or 200 kg at sorting centers and will also be collected in the villages.

There is no need to wash the foils. Great advantage is that recently Campus Challenge got a total solar package, donated by an Indian donor, with a surplus capacity for the factory. The technical staff of Save Plastics will be in India to construct the factory and give service during 3 years, on the spot and using online support with zoom. The staff of Campus Challenge will provide the management and guide the youngsters who get a training to become a plastic operator.

### 3. Rotary community assessment and environment assessment

Conform the Rotary Foundation regulations, an February 2023, an assessment of a week took place by a team of 8 members from RC Vizianagaram, RC Amsterdam-Nieuwendam, Save Plastics, Campus Challenge and Friends Indeed. The team:

- visited the current 5 vocational trainings for youngsters with a disability to get an impression whether a 6<sup>th</sup> vocational training to become a plastic recycle operator would be realistic and could be imbedded
- followed the plastic waste till from the moment it hits the street: streams, open sewers, the beach, side roads, till dumps, where it was mainly burned

Regarding the future education and the route of the plastic there were discussions at all levels to inventarise the current situation and needs. Also it was investigated what plastic recycle products could be useful and whether the raw material (foils), technical knowledge, maintenance is available etc. Please see the assessment report.

## 4. Business case plastic recycle factory

Based on the experiences during the assessment, a 5 years business case has been written for three products, 2 tiles with different size and 1 plank. The costs have been compared with ceramic tiles and wooden planks, available in the nearby town.

The 1<sup>st</sup> year starts with only material costs, the 2<sup>nd</sup> year brings in salary costs, the 3<sup>rd</sup> year depreciation. The production output in the 1<sup>st</sup> year is 22.800 kg and will rise to 33.280 kg, based on 1 shift of 8 hours per day, 260 days. Starting in the 3<sup>rd</sup> year, the moment that depreciation enters, more production via extra shifts is needed. There are no additional electricity cost and no costs for the building. Also the youngsters in education get no salary but free boarding and food at Campus.

The business case shows the plastic tiles can be produced against the same or lower costs that ceramic tiles and wooden planks. It is also important to realise that the life time of a plastic tile or plank is 45 years, and than it can be melted again and used 9 times. This means that the plastic products are more sustainable.

## 5. 3 Education programs at 8 villages to promote behaviors for conservation of the environment

To make this program a success, it is necessary to create awareness in the villages concerning the conservation of the environment. Therefore, three trainings will be given during 3 years:

### a. School education

There is an education pack for age group 11-12, developed with the financial support of Transform CE. Europe. This program will be given 3 years on a row, including a 'plastic hunt', visit to the factory and the preparation of a Children Conference after 3 years.

### b. Village awareness program

The same – adapted - program will be given for adults. This includes also plastic hunt, but now with a shovel to clean the environment of the villages, experience melting plastics using a mobile LAB, visit the factory and making school gardens at the cleaned areas.

### c. 'Hero' Program

Youngsters with a disability, who live in the villages and have no job, become the central persons in their villages to gather the foils, store them and send them once a week with the drivers of the schoolbus of Campus or the ambulance. They get paid per kg, the same price which will be paid for the pressed bulks of the sorting centers. In that way, the youngsters have a small job, can participate, can contribute to the family income, which is very important for their self esteem.

The three trainings come together after 3 years in a Children Conference, to be organised at Campus Challenge, to be prepared by the children and their parents, presenting what they learned and experienced with interviews, movies, powerpoints etc. Also, this will be an excellent moment to give prizes to schools, villages, children to appreciate their efforts.

## 6. Project Implementation

To reach all goals, including the education program, it is important that all partners stay three years closely involved. This means: regular visits of the partners to give technical support, monitor, see to the proper maintenance and give the mentioned trainings at the schools and in the villages.

Association Saikorian and partner Friends Indeed will guarantee during three years:

- The location inclusive renovation
- The maintenance and repairs
- The annual costs: the salary, energy costs, transportation costs, free boarding youngsters
- Monitoring and evaluating conform the regulations of the Rotary Foundation

## 7 The Partners: a strong team

### RC Amsterdam-Nieuwendam Netherlands

Club members and guests of RC Amsterdam-Nieuwendam visited the fisher villages many times and wondered whether it would be possible to transfer the thick layers of plastic into construction materials for the same villages. Think of : tiles for a toilet, a kitchen, a floor, planks for housing, roofs, shoring material!

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[plasticrecyclelab@rotary.nl](mailto:plasticrecyclelab@rotary.nl)

Website: [www.plasticrecyclelab.nl](http://www.plasticrecyclelab.nl)

### RC Vizianagaram India

RC Vizianagaram is quite near the fisher villages and aware of the problems over there. Also, RC Vizianagaram has a lot of experience in running Global Grants.

Contact person: Dr. Venkateswara Rao, IDG 2024-2025 D 3020

Phone: 00 91 770 26 12346

Mail: [drmvrao3020@gmail.com](mailto:drmvrao3020@gmail.com)

### Foundation Save Living Netherlands

The Save Living Foundation is the NGO of Save Plastics BV, who found a solution to transform low worthy mixed plastics (foils) into construction materials. With a European Interreg subsidy they built the first factory at Almere, The Netherlands, which transfers per year 2.500.000 kg of raw plastic into construction materials. Founders Bram Peters and Marlous de Bordes have many years experience to pave this circular path .

Contact person: Marlous de Bordes

Telefoon: 00 31 66 53 14 96 87

Mail: [marlousdebordes@gmail.com](mailto:marlousdebordes@gmail.com)

Website: [www.saveplastics.nl](http://www.saveplastics.nl)

### Association Saikorian

#### Campus Challenge for children and youngsters with a disability, India

Campus Challenge is a regional facility for 1000 children and youngsters with a disability with a children village with 10 homes, a EMS school 10 classes, outreach team, 5 vocational trainings, big gardens. There is a separate building available. Campus has the technical knowledge to run and maintain a recycle factory.

Contact person: R.L.N. Sharma, director

Phone: 00 91 93 94 33 36 15

Website: [www.campus-challenge.org](http://www.campus-challenge.org)

### Friends Indeed Foundation Netherlands

This Dutch NGO, working and constructing in India since 2004, under which 24 schools and Campus Challenge, will guarantee the costs which cannot be funded via the Global Grant. Also, Friends Indeed will guarantee the salary costs and monitoring during 3 years to make the program sustainable.

Contact person: Anne Legeland

Website: [www.friendsindeed.nl](http://www.friendsindeed.nl)

### Collaboration Rotary End PlasticSoup

This program has the support of the Rotary EndPlasticSoup initiative, a network of hundreds of Rotary, Rotaract and Interact clubs worldwide to solve the plastic pollution problem. Their goal: by 2050 no more plastic soup in oceans, seas, lakes, rivers, parks and streets! See: [endplasticsoup.org](http://endplasticsoup.org)

## 8.. Budget

The total costs are estimated at USD 160,000.-.

### Plastic Recycling factory east coast India

In US dollars

#### SAVE LIVING FOUNDATION

##### 1. The machinery for the factory

A 100 ton PE/PP line factory for tiles and planks

- Agglomerator
- Extruder
- Intruder
- Press

60,000

##### 2. Training in the Netherlands

Hands On training by staff Save Plastics for 3 persons

5,000

##### 3. Preparation phase, installation, start up by Save Living

Technica specifications, supplier selection, support FRC process,  
Technical mould drawings 2 x , mould engineering and factoring,  
Supplier communication, FAT, support ordering

10,000

##### 4. Project Management for the Factory

2024 construction factory

remote assistance and trouble shooting

10.000

2025 visit + remote assistance and trouble shooting

5,000

2026 visit + remote assistance and trouble shooting

5,000

##### 5. Communitytrainings at the villages

Implementation education plan 8 schools 2024 – 2026

5,000

Implementation awareness plan adults 8 vilalges 2024 – 2026

5,000

Implementation Hero program 8 villages 2024 – 2026

5,000

##### 6. Travelcosts technical staff Save Living Education

3 visits by 2 persons, in 2024, 2025, 2026

10,000

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120.000

#### ASSOCIATION SAIKORIAN

##### 1. Operations

Compound wall, gates, connection surveillance camera's Campus

10,000

##### 2. Travelcosts

Team of 3 persons to the Netherlands for training

10.000

##### 3. Project management

Administrative costs

10,000

##### 4. Diverse costs

Customs at the harbor incl. agent

Unforeseen

10,000

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40.000

**Total**

**\$ 160,000**





**13.02.23** Assessment team visits a government solid waste processing center Pusapatirega/Bhogapuru

## 9.. Financial plan

It is with great pleasure that both clubs announce that per August 2023 the commitment for the total amount of \$ 160.000 has been reached. This program is a joint collaboration of:

- The Netherlands      10 clubs
- India                      1 club
- Belgium                1 club
- England                1 club
- USA                      3 clubs
- Districts                6 districts

## 10. Timeline

- |                           |                               |
|---------------------------|-------------------------------|
| a. Preparation grant      | 2022-2023                     |
| b. Assessment on the spot | February 2023                 |
| c. Fundraising            | April/July 2023               |
| d. Filing the application | August 2023                   |
| e. Decision TRF           | September 2023                |
| f. Ordering machines      | September 2023                |
| g. Installation           | November 2023 – Februari 2024 |



## 11. Conclusion

To start a vocational training for youngsters with a disability to become plastic recycle operator, located at a advanced plastic recycle factory serves a Dutch saying: “two birds with one stone”. Via this program a vulnerable group of youngsters get a chance: they will have a very advanced education at a very modern factory.

Our generation embraced plastic rather naively. We now are wiser and more aware of the risks and possibilities. Since there is worldwide an enormous heap, which heap unfortunately will still grow, till 2050, we better use plastic as a raw material, become circular and for the sake of conservation of the environment, our health, the health of our children and their children. And once the vocational training starts, the factory is up and running and the programs in the villages are in place: please visit us and have a look!

**A vocational training for youngsters with a disability**  
**A plastic recycling factory**  
**Conservation of the environment**

**Join us, learn with us, and visit the factory in 2024!**

**Rotary**  
Amsterdam-Nieuwendam



**Rotary**  
Vizianagaram



**Friends Indeed**  
A Home A School A Future



*Ability Matters*  
**CAMPUS**  
**CHALLENGE**



groene  
plastic  
fabriek

**END**  
**PLASTIC**  
**SOUP**