

Sustainable Solar Energy Program Rural Area of Brazil



Instituto de Desenvolvimento Sustentável e Energias
Renováveis

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1. PRESENTATION OF IDER
2. PROJECT IMPLEMENTATION AND BASIC RULES
3. PICTURES OF SOLAR INSTALLATIONS
4. NEEDS FOR FUTURE EXPANSION

1. Presentation of IDER

Instituto de Desenvolvimento Sustentável e Energias Renováveis

- Founded in 1996 as an NGO
- First Members:

Five Persons working with Solar Energy and socially interested in the poor regions of Brazil



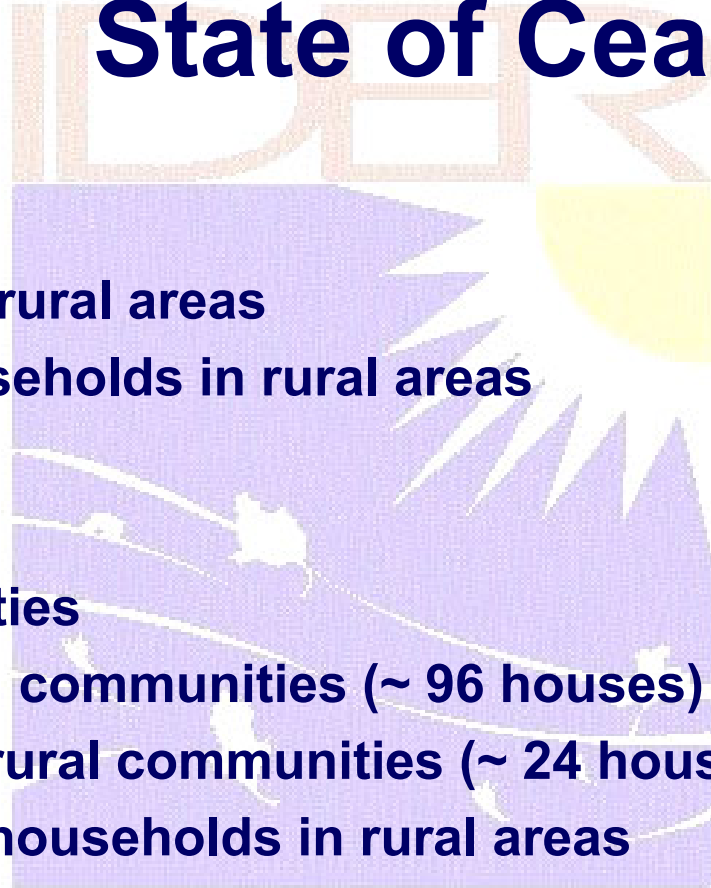
Compromises :

- Promote and develop renewable energy use in the rural area.
- Implement sustainable energy projects.
- Search for adequate financing.
- Develop user-friendly energy systems.



2. PROJECT IMPLEMENTATION AND BASIC RULES

Situation of Rural Electrification in State of Ceará



Total households in rural areas	495,000
Total electrified households in rural areas	190,000
Farms	70,000
Domestic customers	120,000
Total rural communities	9,750
Total electrified rural communities (~ 96 houses)	1,250
Total not electrified rural communities (~ 24 houses)	8,500
Total not electrified households in rural areas	305,000
Estimated annual growth of grid connection	~ 10,000

Methodology

- **Identification and registration of the Families.**
- **Development of an energy project.**
- **Training and Qualification of local human resources.**
- **Creation of a Revolving Fund.**
- **Installation together the with local population.**
- **Accompaniment.**
- **Analyze the social impact and the technical performance.**

Criteria for the Sustainability

The electrification must be part of an integrated development project.

Application of proven technologies.

Implementation of a revolving fund.

Qualification of local human resources for

**Installation,
Maintenance**

and Management of the project.

Models of a Revolving Fund

- 1. Payment of Investment, Administration and Maintenance**
- 2. Only Payment of Administration and Maintenance**

Example of a Revolving Fund

1.	Price of SHS	USD 480,00
2.	Initial payment	USD 48,00
3.	Monthly fee	USD 12,60

This financing is based on:

Financed value:	USD 432,00
Financing period:	48 months (4 years)
Interests rate:	17,6%

Projects Developed :

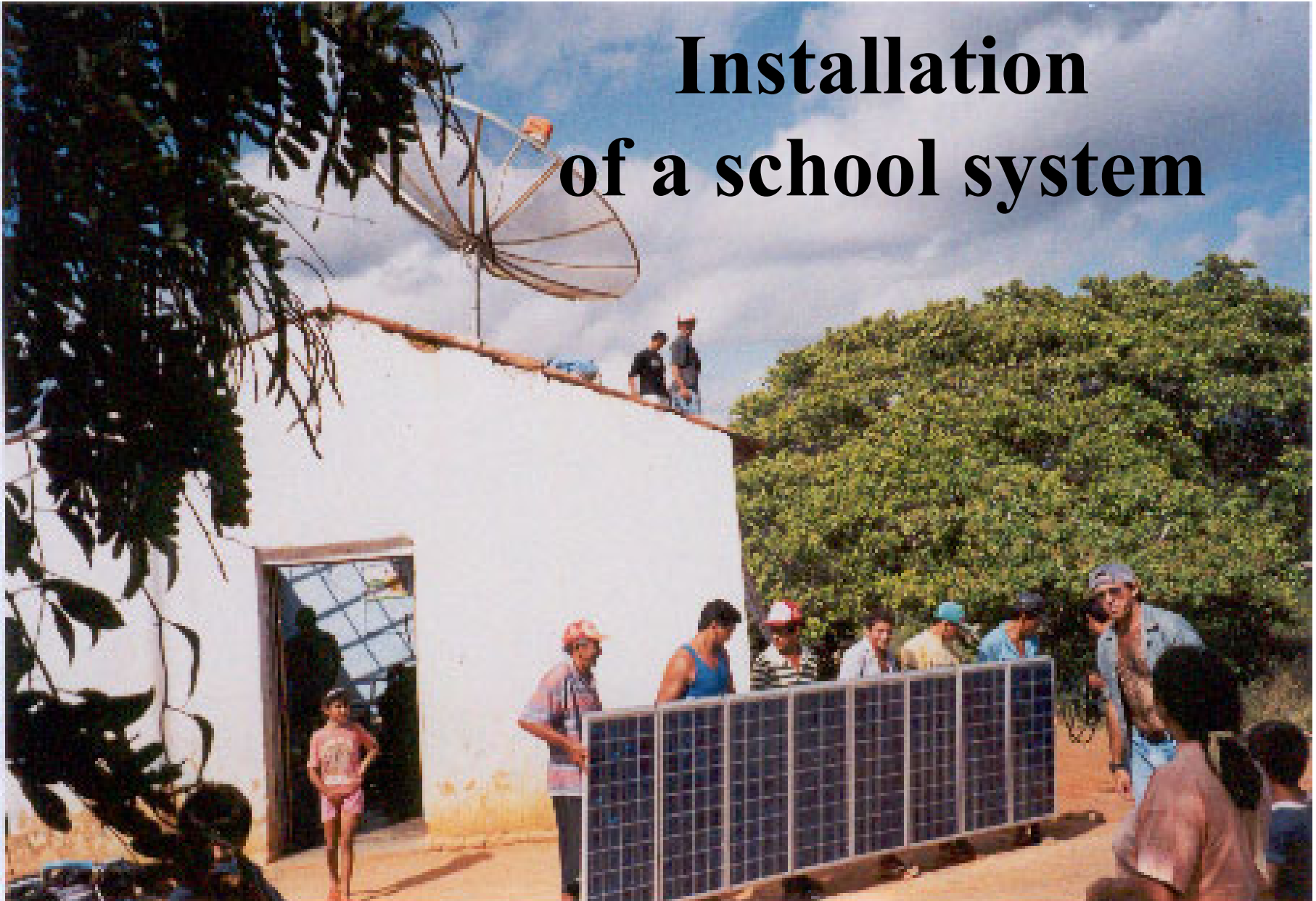
Health Stations for Indian tribes

**450 Solar Home Systems in
15 communities**

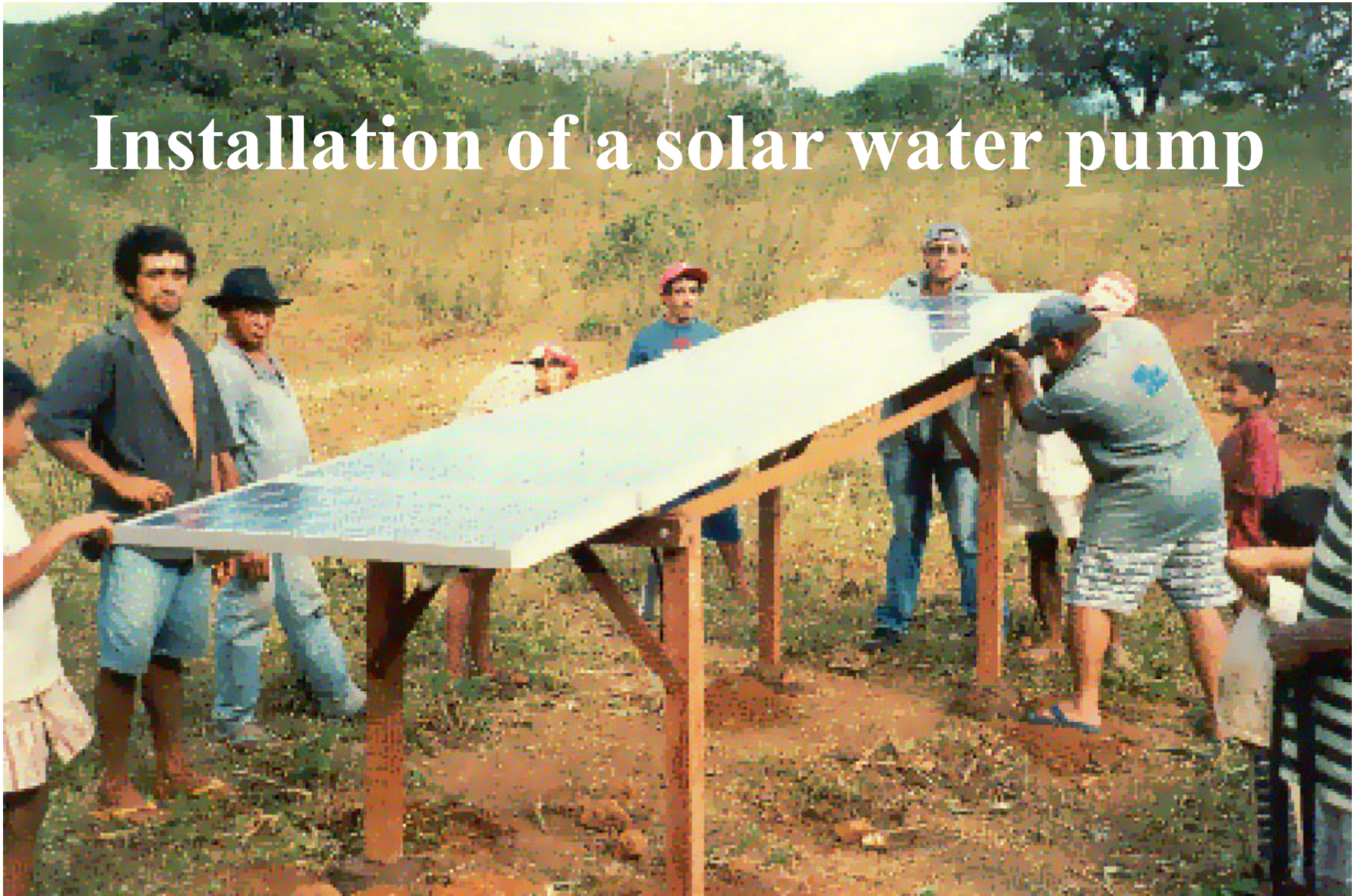
60 water pumping systems

15 school systems

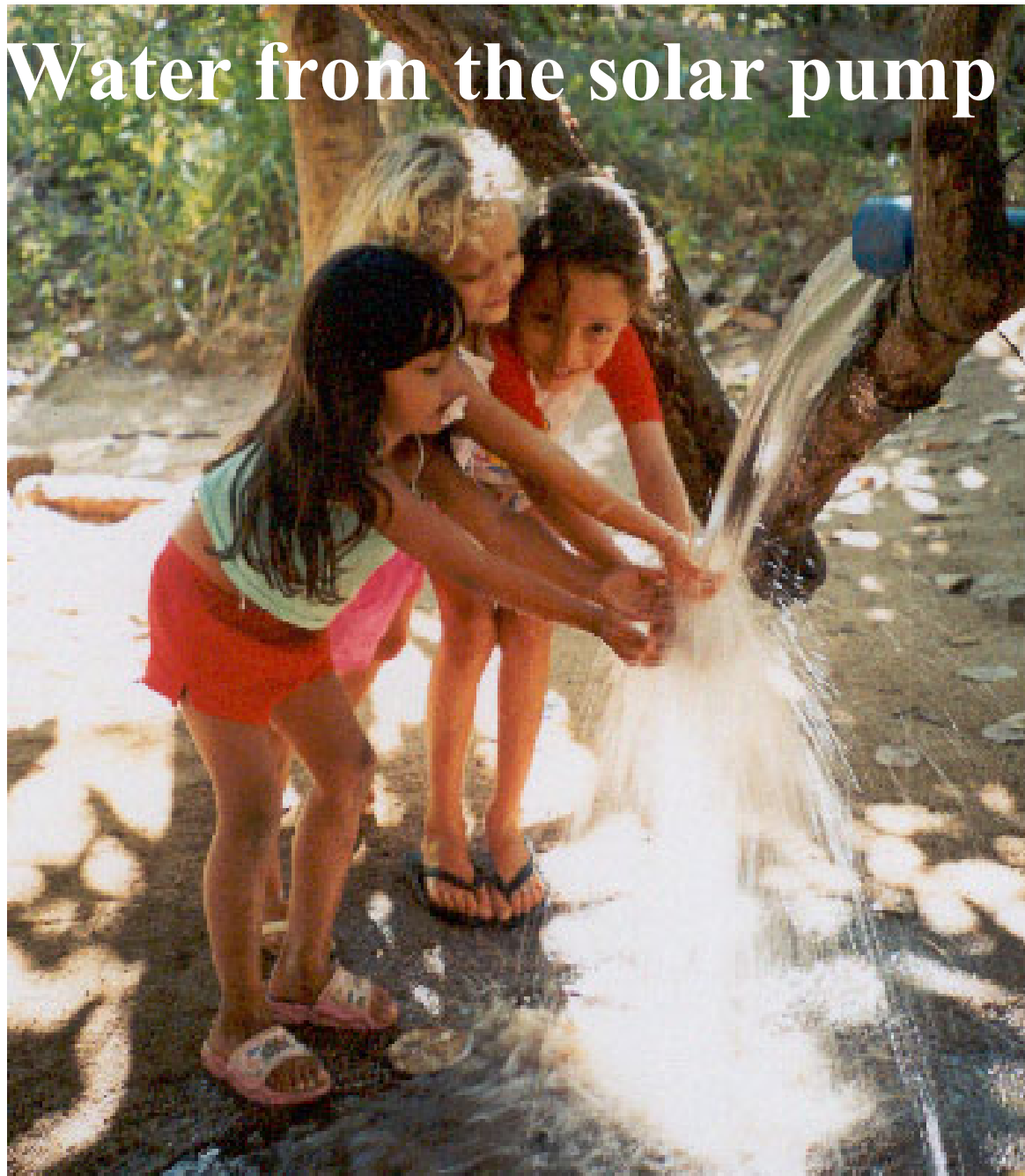
Installation of a school system



Installation of a solar water pump



Water from the solar pump



People taking their SHS



Typical house in the mountains



Typical house in the county side





Happy user with his radio

Women with sewing machines, TV and Freezer



3. Needs for the future



Financing :

- **Credit lines without passing through governmental channels**
- **Micro credits with moderate interest rates**
- **Low profile financing programs**
- **Financing specifically for SHS**

Training :

Training for Trainers :

Administration;

Installation;

Maintenance;



Solar Systems

Technically mature;

Adapted to the environment;

Spare parts available.





**End of
Presentation**