



*“I am just as deaf as I am blind. The problems of deafness are deeper and more complex than those of blindness. Blindness separates me from objects. Deafness separates me from people.” - Helen Keller.*

Howard Weinstein- Ashoka Fellow, Peter A Silverman Global Health Scholar, Founder Solar Ear

# Social Enterprise Objectives

---

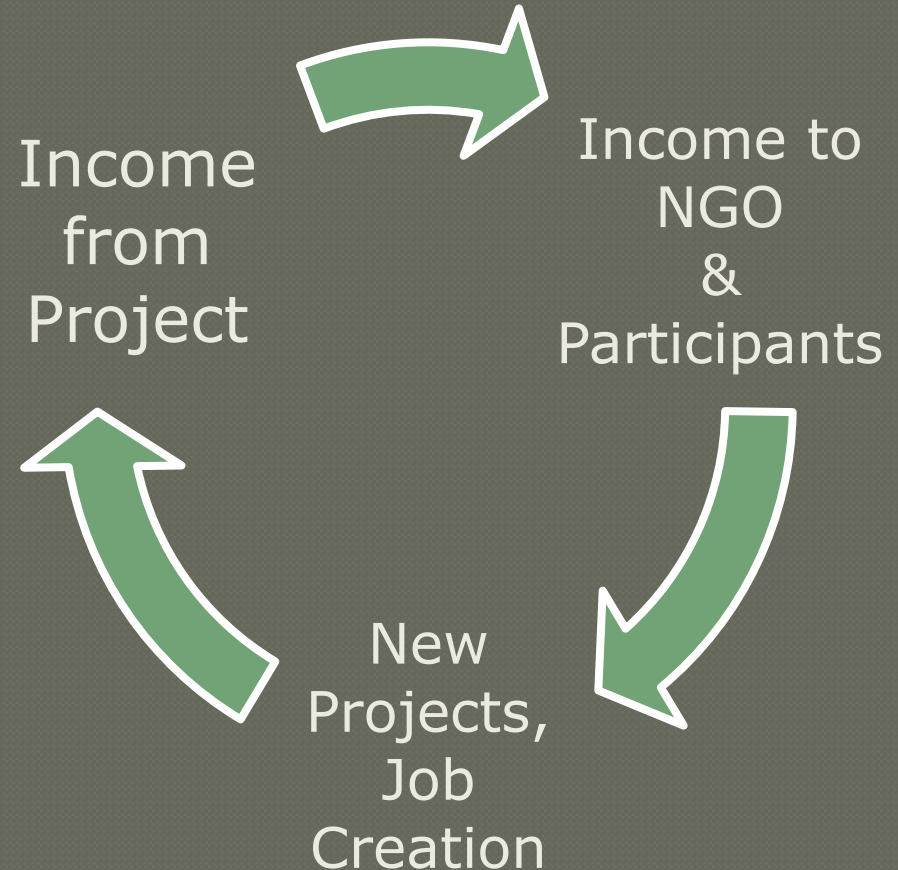
- ◉ Sustainable profits
- ◉ Social impact
- ◉ Agent of Change in society



# Social Enterprise Focuses on Sustainability

---

- Projects must survive from self-generated income.
- Professionally run.
- Replicability-scaling.



# Introduction

---

- Present the implementation of a sustainable, non-profit business:
  - the situation and problems.
  - the activities.
  - the outputs.
  - the outcomes.
  - the impact.

# Methodology :

## Results Based Management

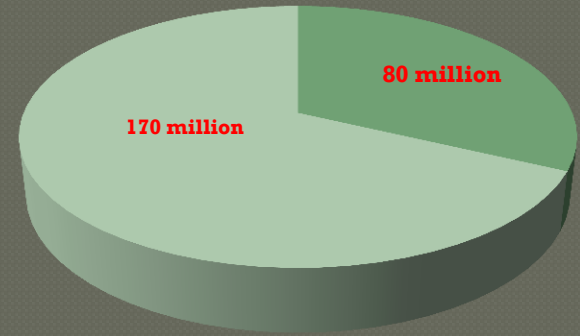
---

- ① A Results Based Management (RBM) program refers to the idea *that which gets measured gets done* .
- ② Its hard to see how just stating a mission and intended **activities** could motivate anyone for long, let alone make possible feed-back for improving performance, if results and mission accomplishment are not measured.

# Situation and Problems

---

- 300 million people need a hearing aid, 220 million of them in developing countries (WHO 2001).
- 8 million hearing aids are manufactured per year.
- Only 12% go to developing countries.
- 90% of the estimated 665.000 babies born with hearing impairment annually reside in developing countries (Olusanya et al.,2005).



# Solar Ear's Mission

- 1) Provide **proven** high quality affordable hearing aid
- 2) Offer training and employment to young deaf people, especially women
- 3) Provide deaf education programs on issues of HIV-AIDS, home economics and other programs
- 4) Showing society the special abilities of deaf, thereby creating more employment opportunities
- 5) New methods to deliver sustainable hearing health



Women Empowerment – Partners Middle East

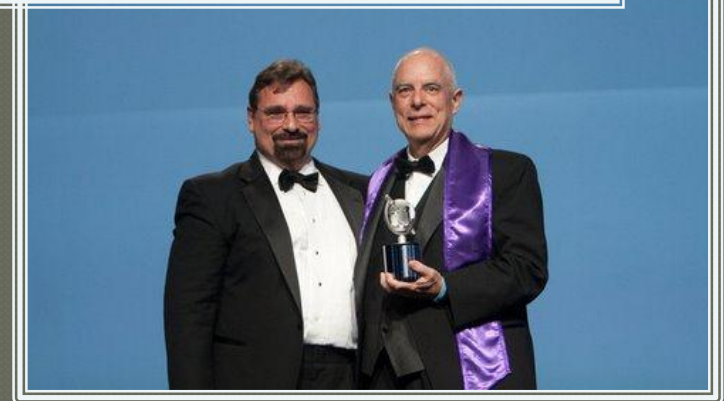
# Mission

## Solar Ear & Al Gore win 2009 Tech Award

The **Tech Awards** is an international awards program that honors innovators from around the world who are applying technology to benefit humanity.

The **Tech Awards** program inspires global engagement in applying technology to humanity's most pressing problems by recognizing the best of those who are utilizing innovative technology solutions to address the most urgent critical issues facing our planet.

People all over the world are profoundly improving the human condition in the areas of education, equality, environment, health, and economic development through the use of technology. It is the goal of The Tech Awards to showcase their compelling stories and reward their brilliant accomplishments **Al Gore** received a **Humanitarian Tech Award** and **Solar Ear** won an **Economic Empowerment Tech Award**.

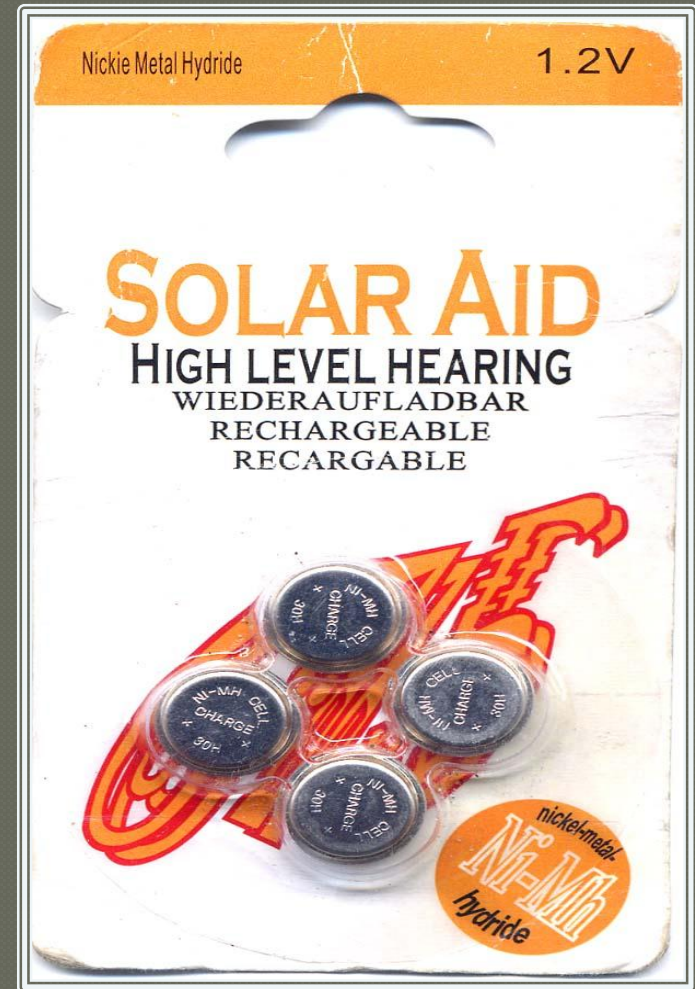




# Outputs

Provide an affordable hearing aid

- Develop the first rechargeable and low cost #675 , #13, #312 hearing aid battery.
- Costs less than **\$1.00**
- Maintains recharge capability or capacity for 2-3 years
- Can be used in any standard BTE aid.



# Outputs

Provide an affordable hearing aid

- Invented but did not patent solar charger.
- Charges two hearing aid batteries at the same time.
- Charges Solar Ear Digital hearing aids.



# Outputs

Provide an affordable hearing aid

- Developed Analogue HA cost \$40
- Developed Digital HA cost \$75
- All parts and suppliers FDA CE approved
- Universities studies:
  - Central Michigan University,
  - University of Copenhagen,
  - Stanford University,
  - Special Olympics



Workers who are deaf - Brazil

# Outputs

1) Provide an affordable hearing aid

---

- Through affordability of the hearing aid project.
- Through quality workmanship.
- Through excellent customer service.



SUSTAINABLE AFTER 2 YEARS

# Outcomes

Provide an affordable hearing aid

- A hearing aid, solar charger and batteries under \$100
- Over 10,000 sold in 31 countries !!!!
- Revenues invested in new product technologies & educational program.
- Environmental contribution: 200,000,000 batteries
- Interest on this type projects in other countries
- Each new project brings economies of scale for all.



# Outcomes

Provide an affordable hearing aid

## Brazil

- First digital rechargeable hearing aid.
- Modified solar charger.
- 10 new jobs for young deaf adults.
- Assembling distribution and warranty center for Latin America.



Workers who are deaf - Brazil

# Impacts

Provide an affordable hearing aid

- Larger access to the educational system for children who received the hearing aids.
- Changed civil society perception of skills of people who are deaf.
- Developed model for sustainable business.



Workers who are deaf - Brazil

# Impacts

## Peace Building- Al Quds Solar Ear

### Middle East

- Hiring 12 Israeli, Jordanian, Palestinian deaf workers on historic co-existence program
- Health as bridge to peace; Academic and Government leaders at co-operative level
- Business as bridge to peace; on the ground level
- Knowledge transfer center for tele-health, maternal health education
- Build Relationship



Stars of Hope  
Ashoka





# Impacts

## Deaf empowerment program

- ◉ South to South
- ◉ Person with disability to person with disability



# Impacts

Provide deaf education programs on issues of HIV-AIDS, home economics and other programs

- Greater access for people with special needs in civil society.
- Healthier, better educated person.
- Reasons to stay healthy



Workers who are deaf - Botswana



Education program - Brazil

# Sustainable Social Program

## D.R.E.E.T.

- **D**etection hearing impairment
- **R**esearch and map causes
- **E**quipment - provide affordable hearing aids and fitting equipment
- **E**ducation – inclusive education for children and social integration for adults, communication skills
- **T**raining - build in field capacity

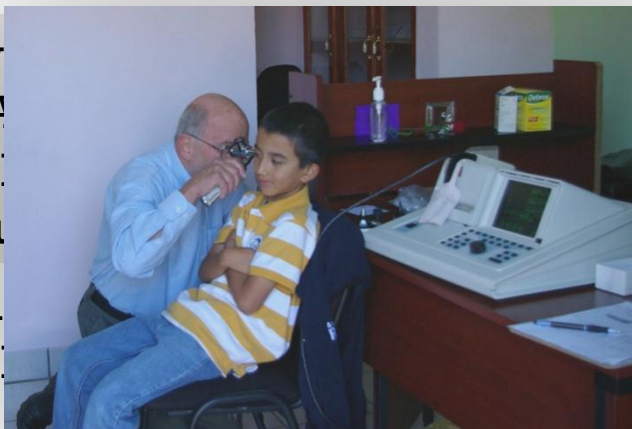


# DREET Structure

		Solar Ear	Certified Centers	Micro Entrepreneurs
<b>D</b>	\$	Hearing Screening & Testing	Hearing Screening & Testing	Hearing Screening
<b>R</b>		Collecting information	Collecting information	
<b>E</b>	\$	Solar Powered Hearing Aids & Rechargeable Batteries & Ear Moulds	Distribution of Equipment	Body Worn & Rechargeable Batteries
<b>E</b>		Tele-Health Centers & Maternal Health Program	Maternal Health & Communicate with your child	Communicate with your child
<b>T</b>	\$	Speech Language Therapy & Training – Capacity building	Speech Language Therapy	

# DREET Structure

	Solar Ear	Certified Centers	Micro Entrepreneurs
<b>D</b>	\$ Hearing Screening & Testing	Hearing Screening & Testing	Hearing Screening
<b>R</b>	Collecting information	Collecting information	
<b>E</b>	\$ Solar Power Hearing Aids, Rechargeable Batteries & Ear Molds		
<b>E</b>	Tele-Health, Maternal & Child Health Program	with & your child	
<b>T</b>	\$ Speech Language Therapy & Training – Capacity building	Speech Language Therapy	



# DREET Structure

	Solar Ear	Certified Centers	Micro Entrepreneurs
<b>D</b>	\$ Hearing Screening & Testing	Hearing Screening & Testing	Hearing Screening
<b>R</b>	Collecting information	Collecting information	
<b>E</b>	\$ Solar Powered Hearing Aids & Rechargeable Batteries & Ear Moulds		n & ble
<b>E</b>	Tele-Health Centers & Maternal Health Program		cate child
<b>T</b>	\$ Speech Language Therapy & Training – Capacity building		



Solar Ear - Brazil

# DREET Structure

	Solar Ear	Certified Centers	Micro Entrepreneurs
<b>D</b>	\$ Hearing Screening & Testing	Hearing Screening & Testing	Hearing Screening
<b>R</b>	Collecting information	Collecting information	
<b>E</b>	\$ Solar Powered Hearing Aids & Rechargeable Batteries & Ear Moulds	Distribution of Equipment	
<b>E</b>	Tele-Health Centers & Maternal Health Program		Communicate with your child
<b>T</b>	\$ Speech Language Therapy & Training – Capacity building		

Solar Ear - Botswana


# DREET Structure

		Solar Ear	Certified Centers	Micro Entrepreneurs
<b>D</b>	\$	Hearing Screening & Testing	Hearing Screening	Hearing Screening
<b>R</b>		Collecting information		
<b>E</b>	\$	Solar Powered Hearing Aids & Rechargeable Batteries & Ear Moulds		Body Worn & Rechargeable Batteries
<b>E</b>		Tele-Health Centers & Maternal Health Program	Maternal Health & Communicate with your child	Communicate with your child
<b>T</b>	\$	Speech Language Therapy & Training – Capacity building	Speech Language Therapy	

Solar Ear - Brazil



# DREET Structure

	Solar Ear	Certified Centers	Micro Entrepreneurs
<b>D</b>	\$ Hearing Screening & Testing	Hearing Screening & Testing	Hearing Screening
<b>R</b>	Collecting information		
<b>E</b>	\$ Solar Powered Hearing Aids & Rechargeable Batteries & Ear Moulds		
<b>E</b>	Tele-Health Center Maternal Health Program		
<b>T</b>	\$ Speech Language Therapy & Training – Capacity building	Speech Language Therapy	Communicate for child

Solar Ear - Brazil

# DREET Structure

		Solar Ear	Certified Centers	Micro Entrepreneurs
<b>D</b>	\$	Hearing Screening & Testing	Hearing Screening & Testing	Hearing Screening
<b>R</b>		Collecting information	Collecting information	
<b>E</b>	\$	Solar Powered Hearing Aids & Rechargeable Batteries & Ear Moulds	Distribution of Equipment	Body Worn & Rechargeable Batteries
<b>E</b>		Tele-Health Centers & Maternal Health Program	Maternal Health & Communicate with your child	Communicate with your child
<b>T</b>	\$	Speech Language Therapy & Training – Capacity building	Speech Language Therapy	

# Activities - Detection

- Promote newborn and school hearing screening programs
- Use proven Canadian IHP program (Dr Martyn Hyde)
- Use latest technology
- Family Centered Solution



# Activities - Research

---

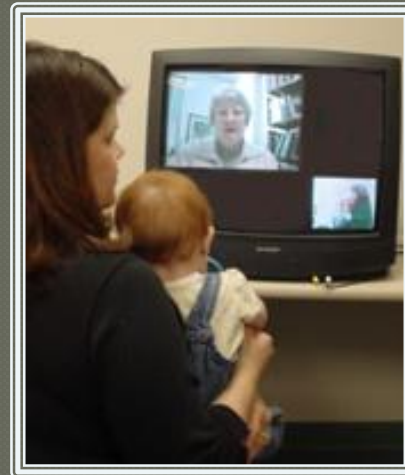
- Embark on 5 year, 15 country study
- Use proven [www.infanthearing.org](http://www.infanthearing.org) standard infant screening protocols - Dr. Karl White
- Conduct epidemiology research – See Special Olympics Healthy Hearing reporting system - Dr. Gil Herer
- All information will be shared and is a by-product of work

# Activities - Education

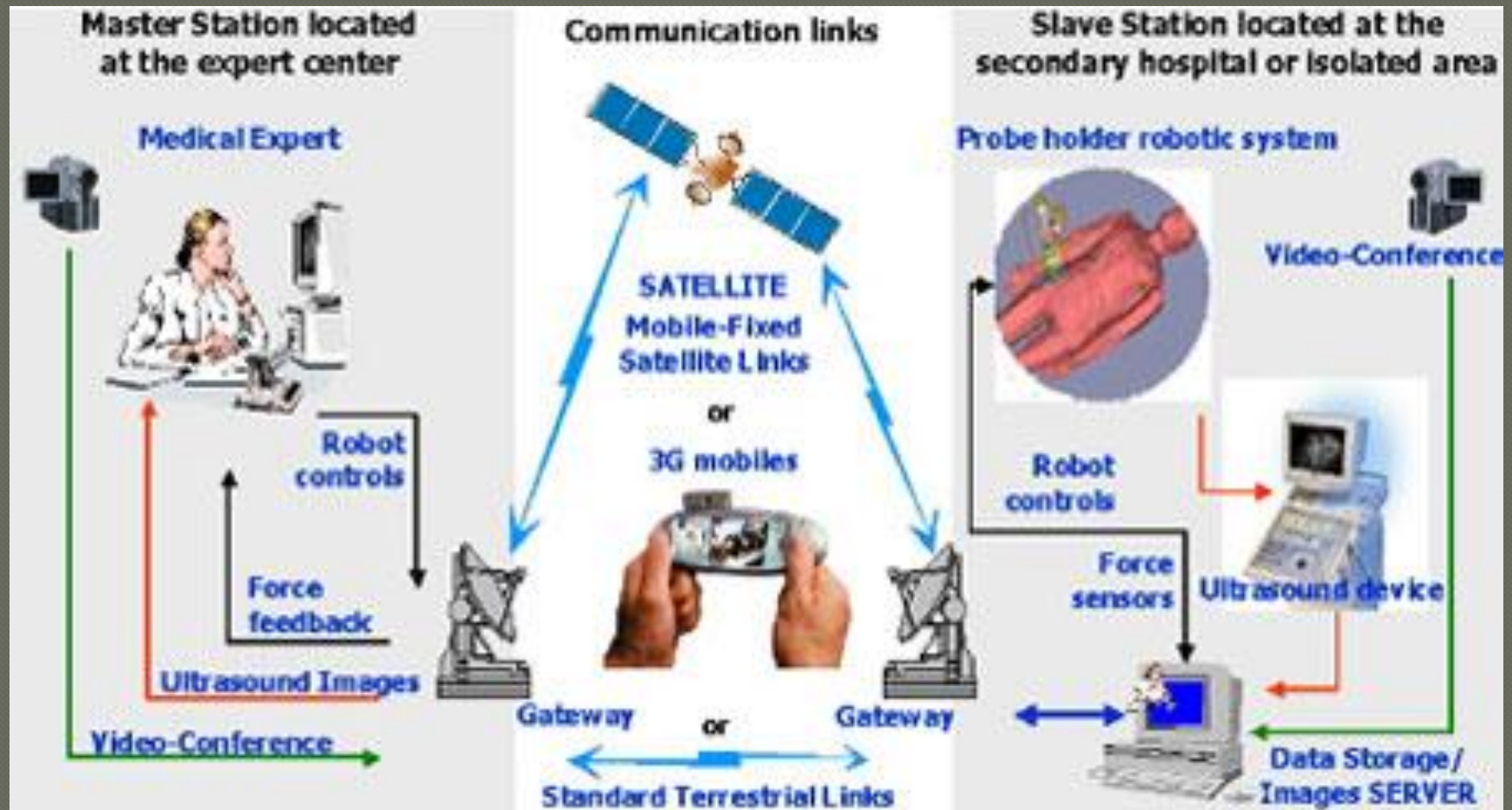
- Develop and Distribute brochures and other information tools on the prevention and early identification of hearing loss targeting healthcare workers, teachers and families



- Tele-health program



# Innovation of new knowledge



# Activities - Equipment

- Manufacture rechargeable hearing aids and batteries as part of a sustainable business program
- Use state of the art, rapid fitting, lean technology testing and fitting equipment calibrated for audio technicians
- Provide instant ear moulds

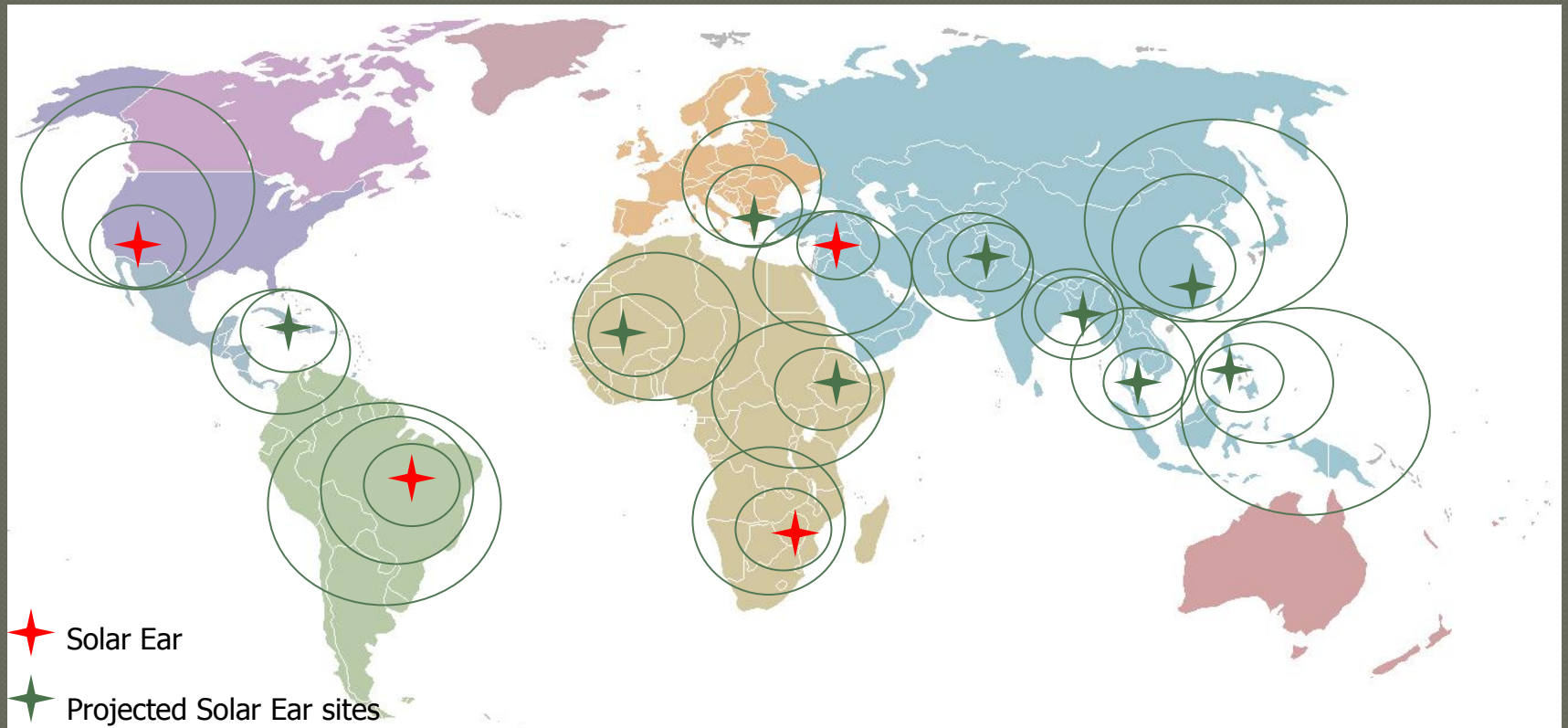


Solar Ear - Botswana



# Activities - Equipment

- Set up manufacturing programs in 11 duty free zones servicing over 60





# Activities - Training

- To implement auditory, speech, language (audio-verbal therapy) for hearing aids to be effective
- To teach proper use & care of hearing aids
- To train parents, teachers and health care workers on the development of communication skills
- To use audio-verbal therapy and training software



Solar Ear - Brazil

# Indicators by 2020

- The burden of hearing loss is reduced for 30 million people -10% of the 300M targeted
- 11,000 micro-entrepreneurs testing
- Each micro-entrepreneur test 2,500 people/year (\$1.00)
- Replicated and scaled without new funds



Guatemala's Micro-entrepreneur



# Impacts of DREET

---

- Increase wealth of population due to more children going to school and more adults being employable
- Reduce social and economic costs of hearing impairment
- Self-sustaining Solar Ear programs and Accredited Centers
- Decrease of other health problems due to early detection of viruses and infections
- Programs and practices can be scaled to many more countries and health problems

# Collaborators

---

- Special Olympics
- Healthy Hearing Directors,
- Middle East Hearing Association
- Humanitarian Audiology Society
- ISA
- Ashoka
- World Bank
- Ford Foundation
- George Soros Foundation
- Synergos Foundation
- Acumen Foundation
- Inter-America Foundation
- Development Bank-
- North West
- Lions Foundation-
- WWHearing

# Partners in our success

THE LEMELSON FOUNDATION  
*improving lives through invention*



A group of diverse children, mostly of African descent, are shown from the chest up. They are wearing bright yellow t-shirts and have their arms raised in the air, some pointing upwards. They are all smiling and appear to be in a state of joy or celebration. The background is slightly blurred, suggesting an indoor setting like a school or a community center.

**Kahil Gibran once said:**

**“ When you work you are a flute through whose heart the whispering of the hours turns into music. To love life through labor is to be intimate with life's inmost secret. All work is empty save when there is love made visible.”**