

Water Forever Museum partnership with UNESCO towards Sustainable Development Goals

2nd Conference of Global Water Museums Network,



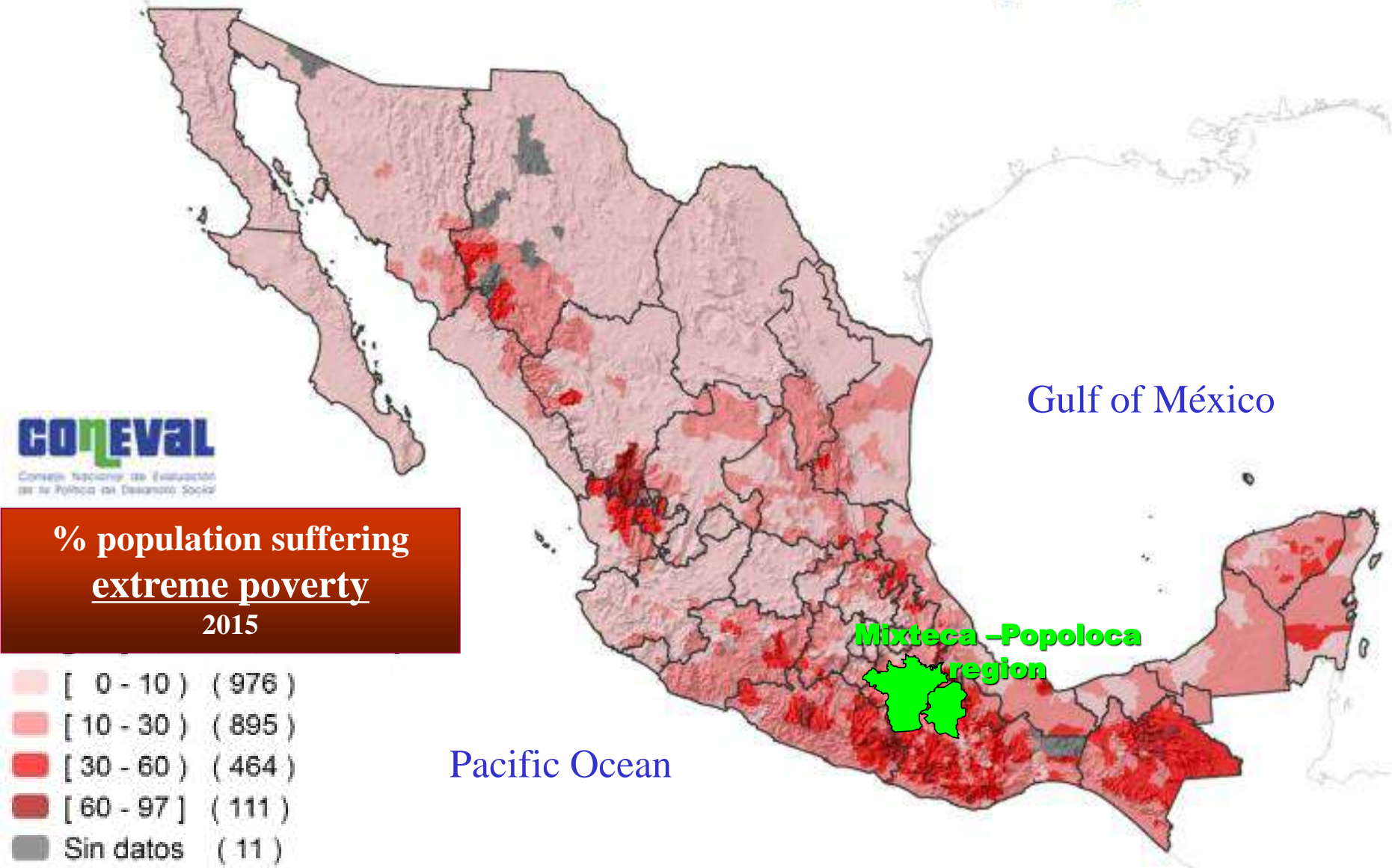
**Iniciativa México
Bicentenario - 2010**

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Raúl Hernández Garciadiego

s-Hertogenbosh Netherlands May 14-18

Origin: 1980 Personal ethical option to serve a most impoverished region
poverty, marginality, and inequality
environmental degradation
= **Uprising of moral conscience**





Participatory research-action
to understand felt needs.

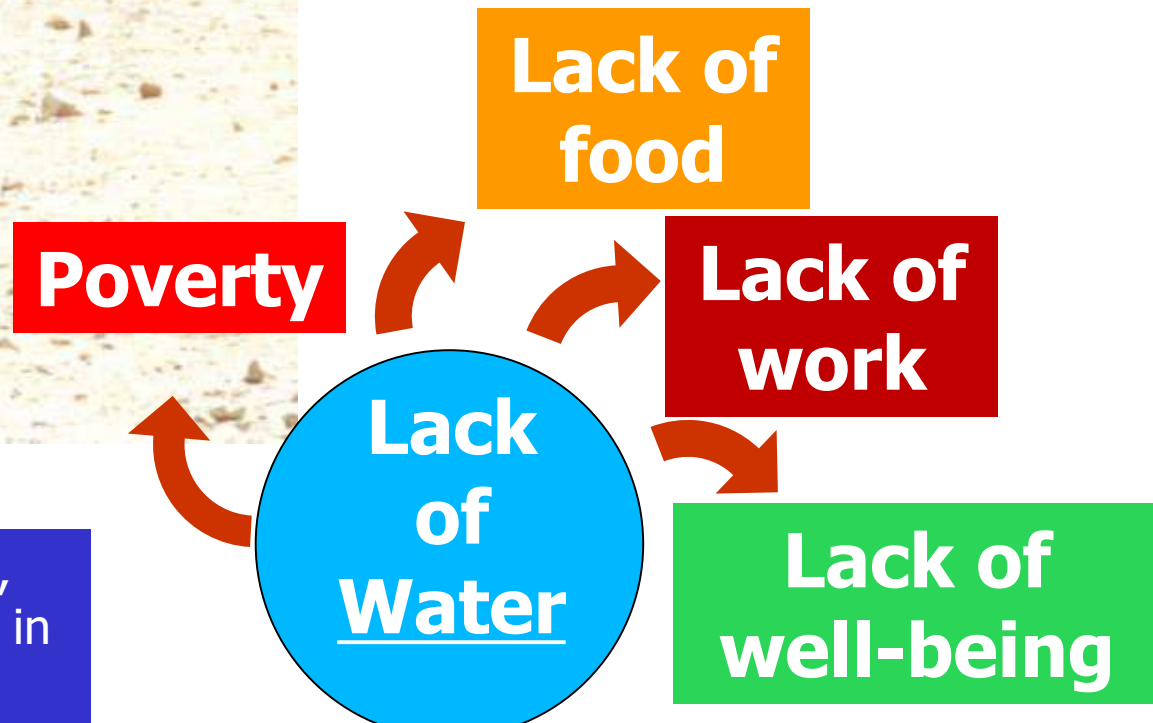
Axis problem = Water

Related = Food + Income + Health

These are vital values,

hence Human Rights.

UN 2010



Tip: Addressing their felt needs,
encourages people's participation in
search of adequate solutions

**Come and have a look at
our shared heritage!**



**1999 Water Forever Museum
= window to the past.**

**Educational aid to
understand:**

- ✓ **Hydro-agri-ecological vision**
- ✓ **Social organization**
- ✓ **Appropriate technologies**

Ancient rock-arranged terraces retain soil and water



**Planting “la milpa,” the marvelous poly-cultivation.
8,500 years heritage Triad of maize, bean, and amaranth, and others.**



The Indigenous strategy of cultural and ecological sustainability allows to learn and re-invigorate ancient *Hydro-Agri-Ecological* vision



c. 1,150 a.C
Worked along 1,900 years

*Canals, terraces, and dam Purron complex
in the watershed*

Key insight:

*Integrated natural resources management: **water, soil, and vegetation***

Now, have a look at the future:
Environment education
= *oriented to Action*



Certified as
Environment Quality Education Center



Access to quality water is a global challenge

Water problems are increasing due to climate change and overpopulation



MÉXICO



Ongoing Desertification Process



Climate Change -> global warming

1987 *Our common future*
Report on sustainable development
UN -Brundtland comission

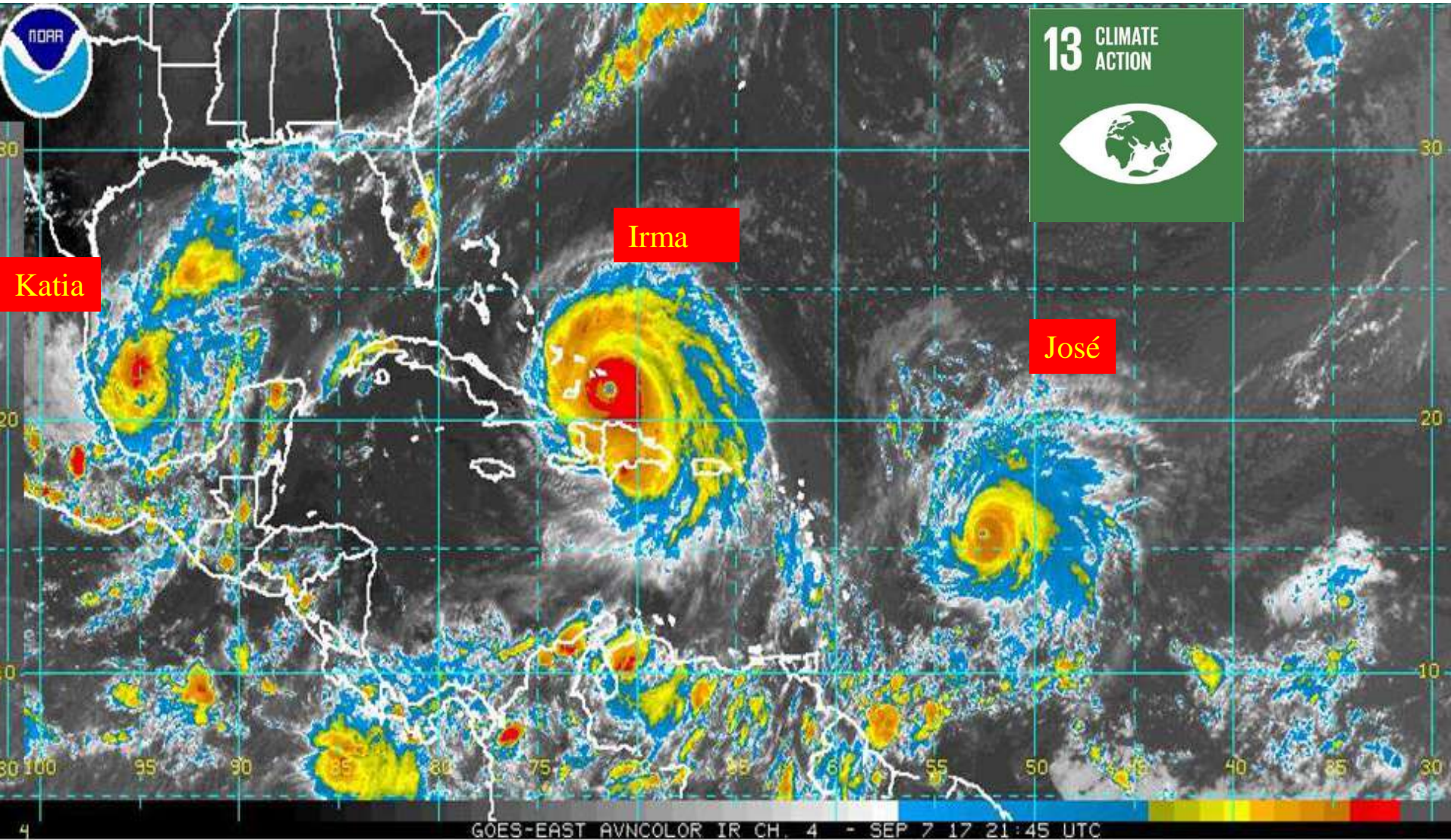
1994



United Nations
Convention to Combat
Desertification

Sustainable soil management strategy

Climate change is increasing extreme hydro-meteorological phenomena



17 Sep 2017 Three chained hurricanes hit the Caribbean and Gulf of Mexico

Perverse cycle: Poverty + Natural resources deterioration = impinges especially on women.



Accumulated natural resources deterioration

Lack of Water

Reduction of development potential and food production

Accelerate natural resources' depletion. Vegetation - Soil - Water

Increased poverty and malnutrition

5 GENDER EQUALITY

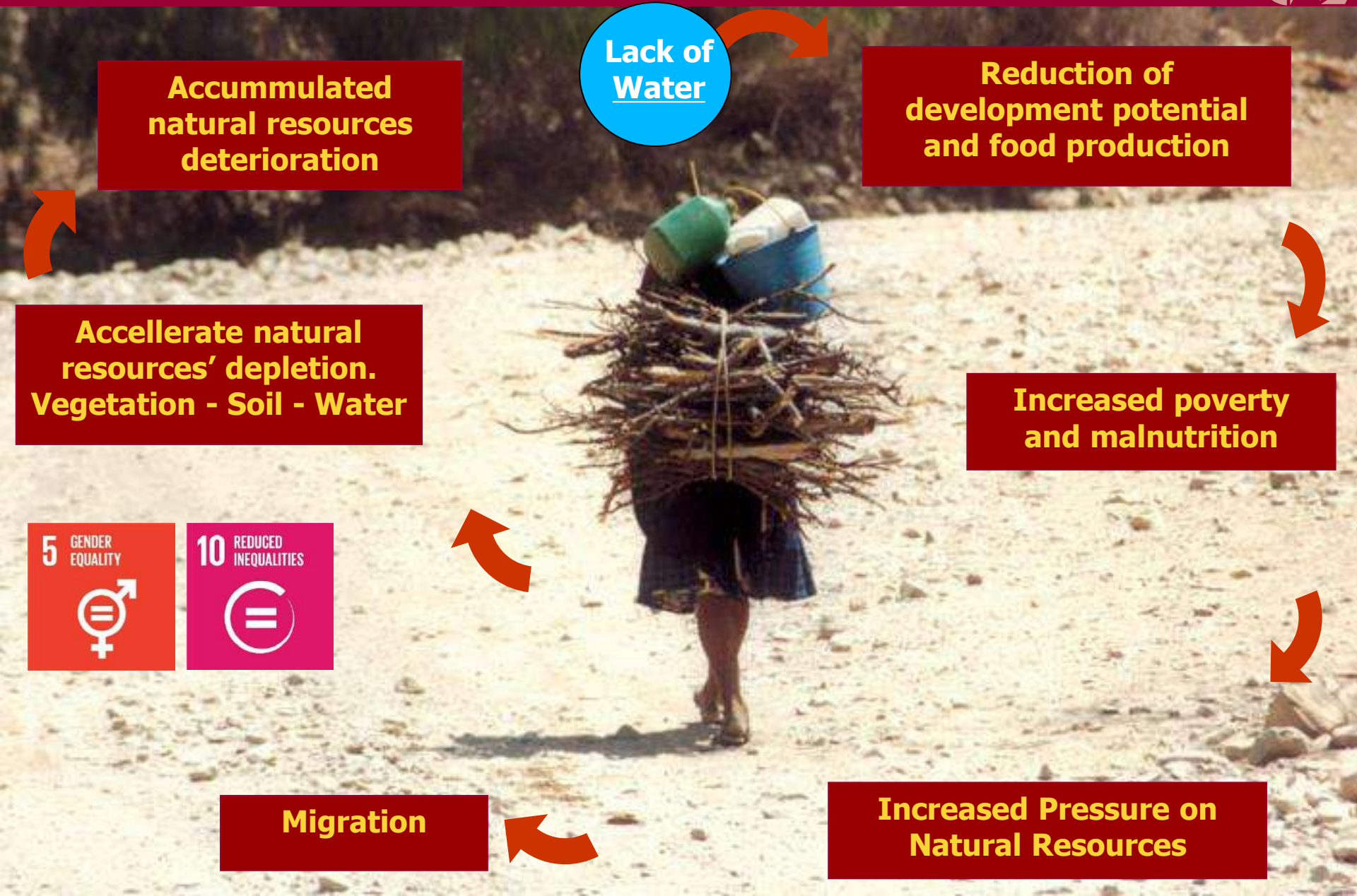


10 REDUCED INEQUALITIES



Migration

Increased Pressure on Natural Resources



Virtuous cycle of ecological regeneration= soil, vegetation, and water to overcome poverty



Investment in Natural Resources Restoration

Regional economic flow and circulation

Soil and water retention

Income growth and diversification

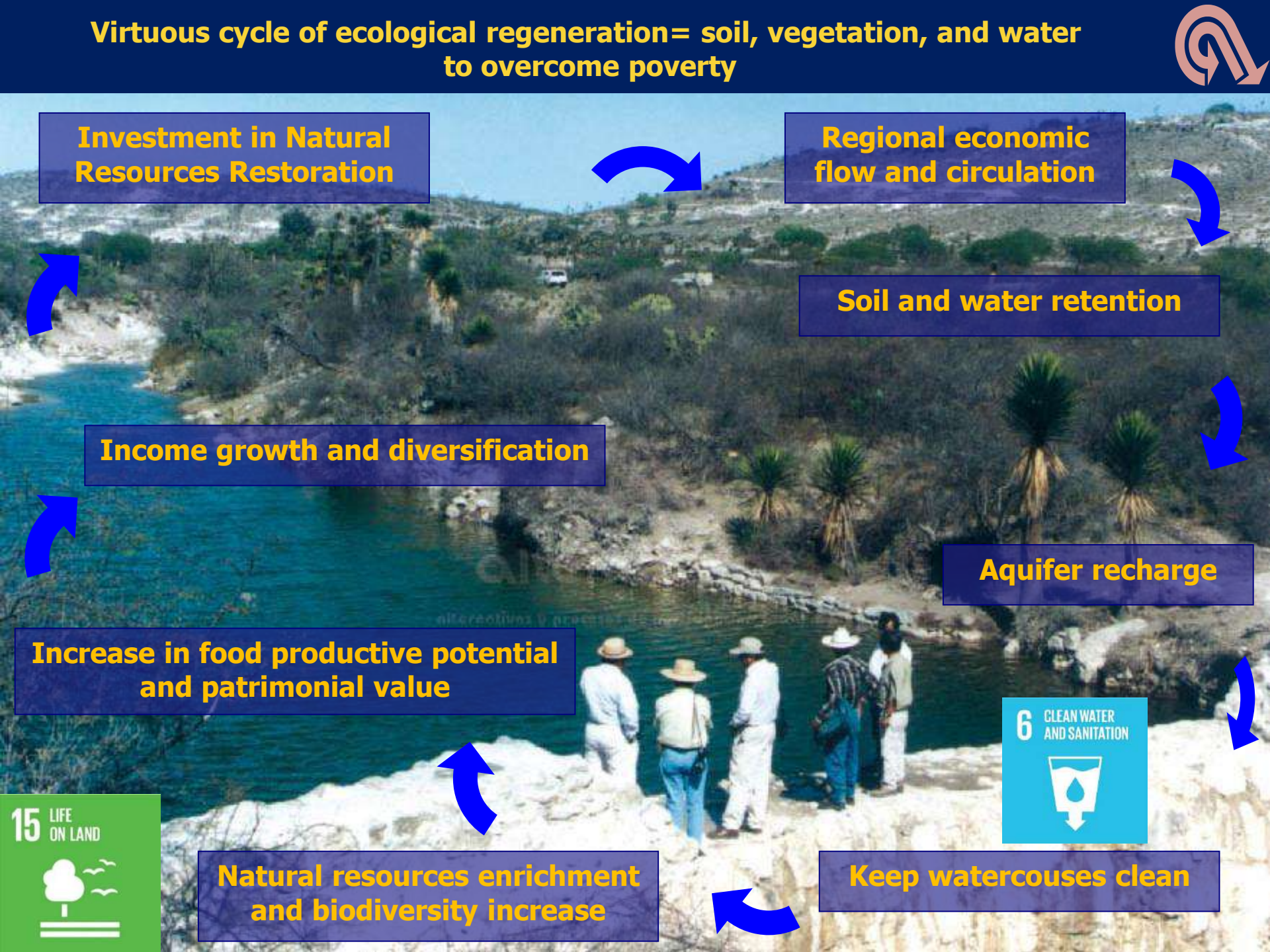
Aquifer recharge

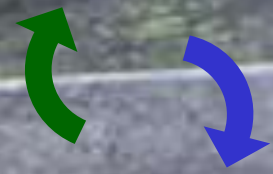
Increase in food productive potential and patrimonial value



Keep watercouses clean

Natural resources enrichment and biodiversity increase





Combining Indigenous with modern technologies while promoting the organized social participation

Ecological watersheds' regeneration to obtain water – specialized training

- ❖ Watershed studies
- ❖ Panoramic courses

- ❖ Appropriate technologies workshops
- ❖ Cooperative organization methodology

Come and learn how to do it !



4 QUALITY
EDUCATION



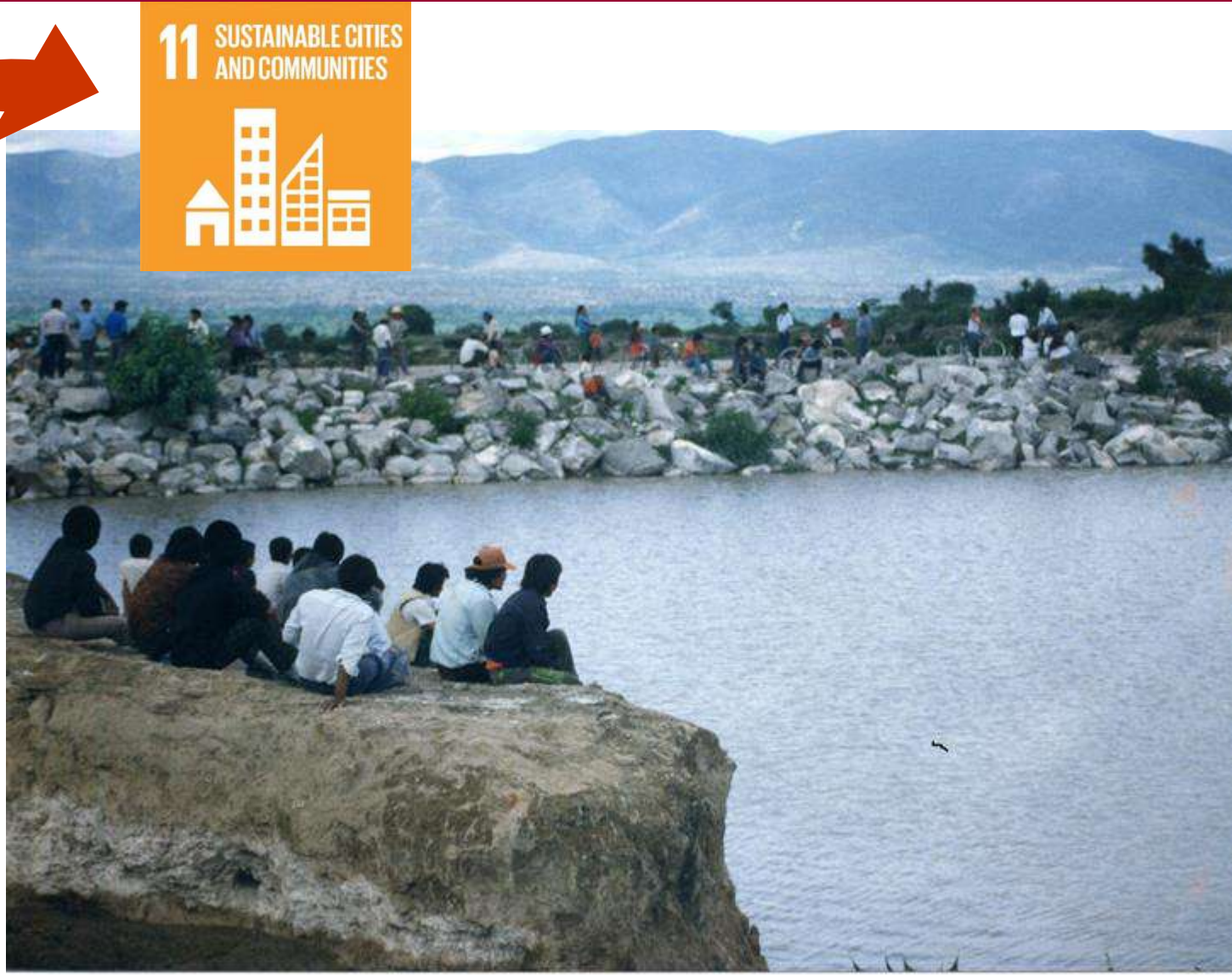
**Ecological regeneration is not only to share ideas,
but mainly about motivations springing from spirituality,
and commitment to feed a passion for World' care.**

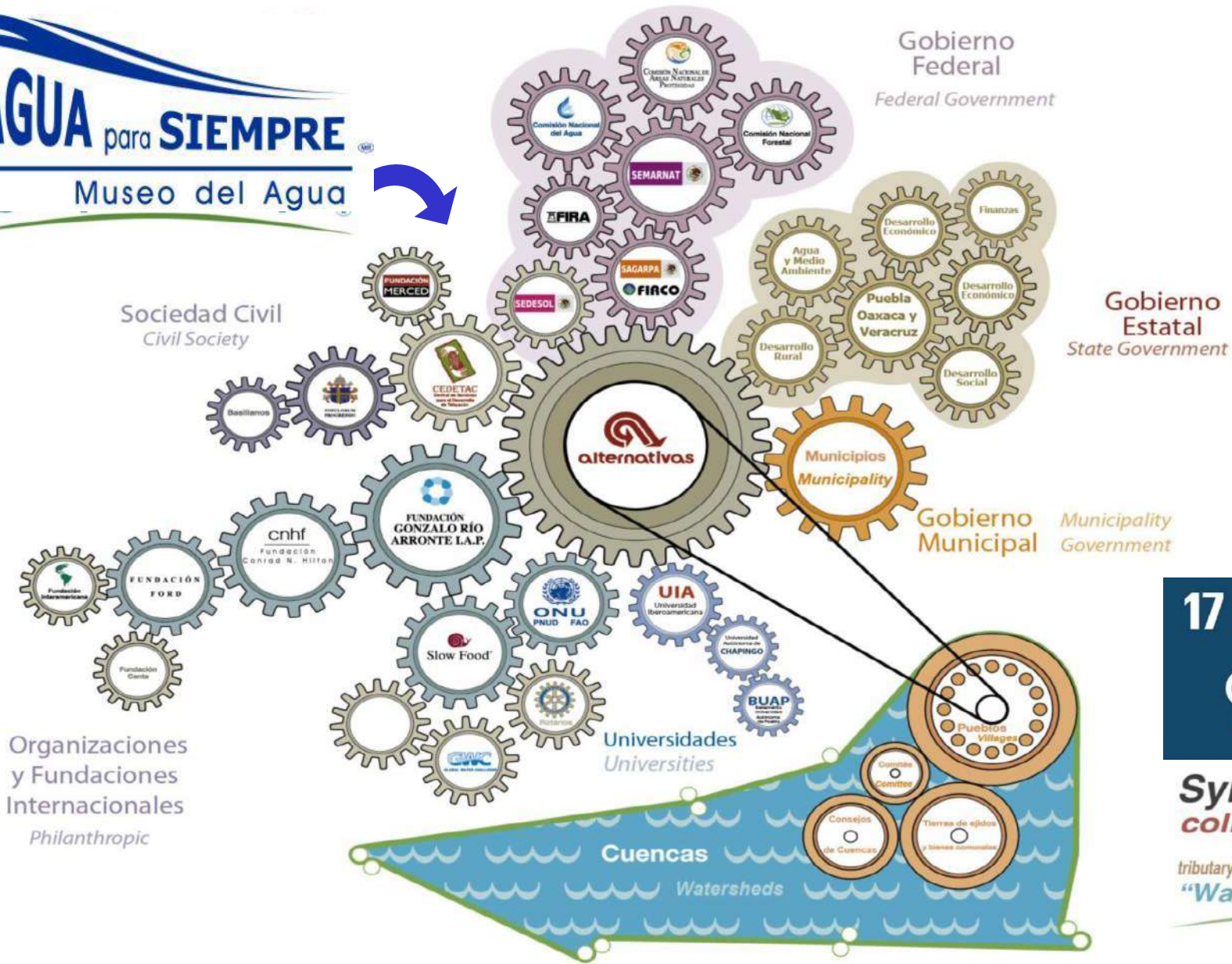
LS

4 QUALITY
EDUCATION



11 SUSTAINABLE CITIES
AND COMMUNITIES

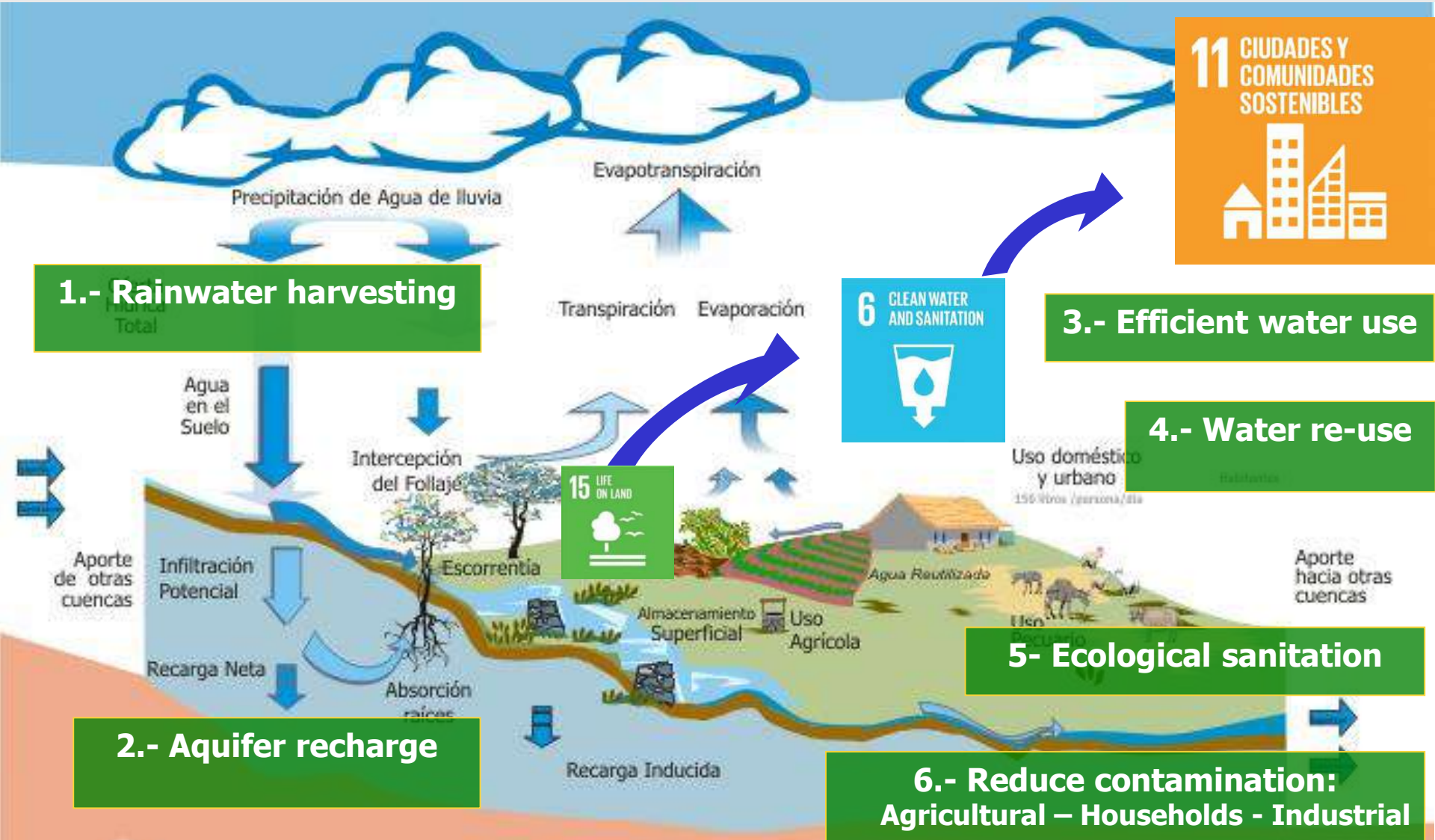




Water Forever provides stimulating experiences with ecological, economic, social and cultural vision and benefits.

Regional Hydro-agri-ecological balance

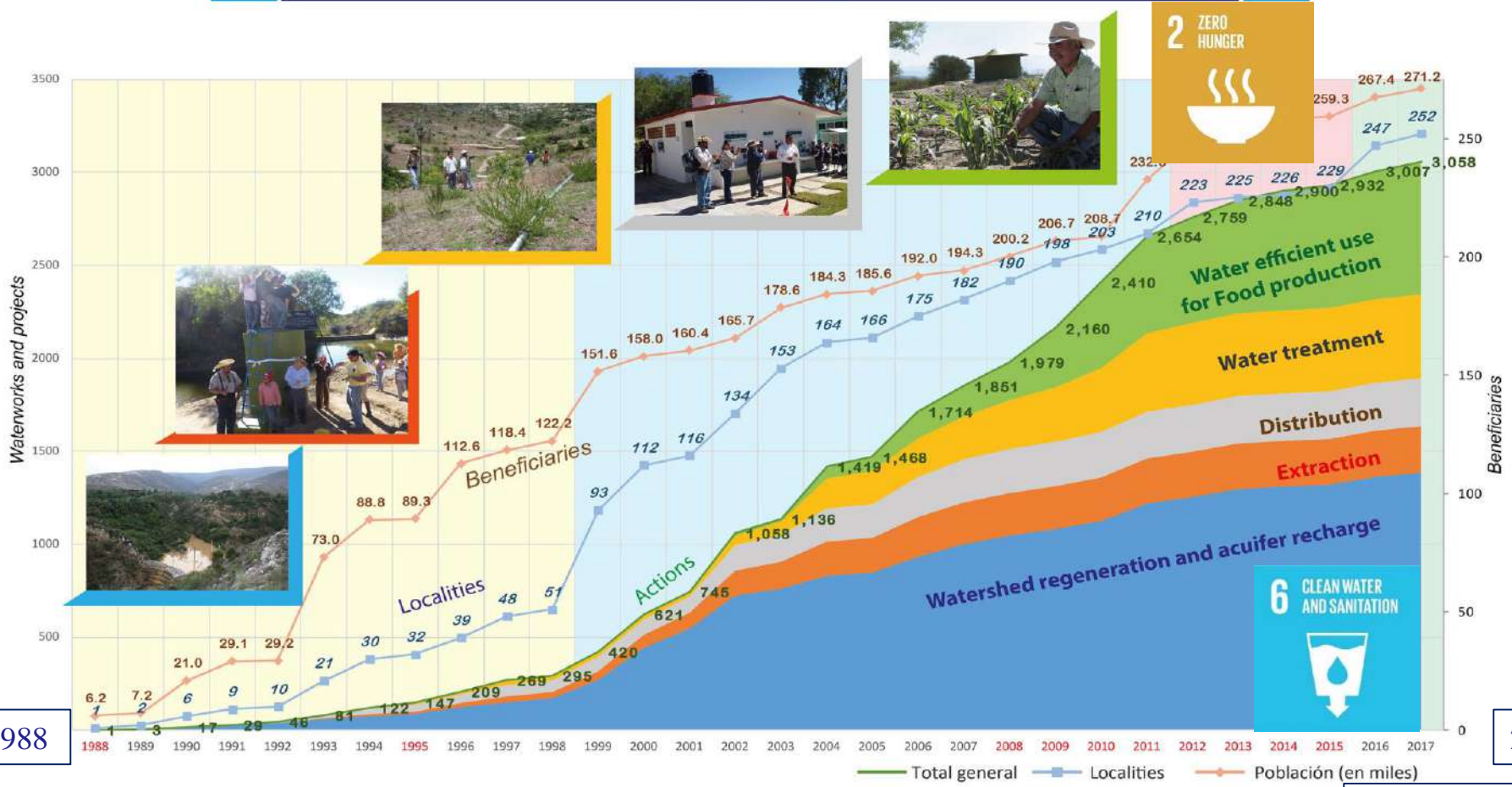
“Agua para Siempre” – Main actions



Indice de Seguridad Hídrica Total

$$SHt = (SHd * kd) + (SHI * kl) + (SHct * ket) + (SHse * ksc) + (SHe * kc)$$

Accumulated benefits for Sustainable Regional Development 1988-2017



1988

2018

30th anniversary

Hydroagricolegical actions

Projects	3,058
Waterworks	11,427

Beneficiaries

States	Municipalities	Localities	Beneficiaries
Puebla	36	143	215,907
Oaxaca	43	106	54,617
Veracruz	3	3	646
Total	82	252	271,170

Benefited area

Tributary Watersheds	56
Area km ²	14,890

Environmental sanitation with bio-digesters



13 CLIMATE ACTION



15 LIFE ON LAND



14 LIFE BELOW WATER



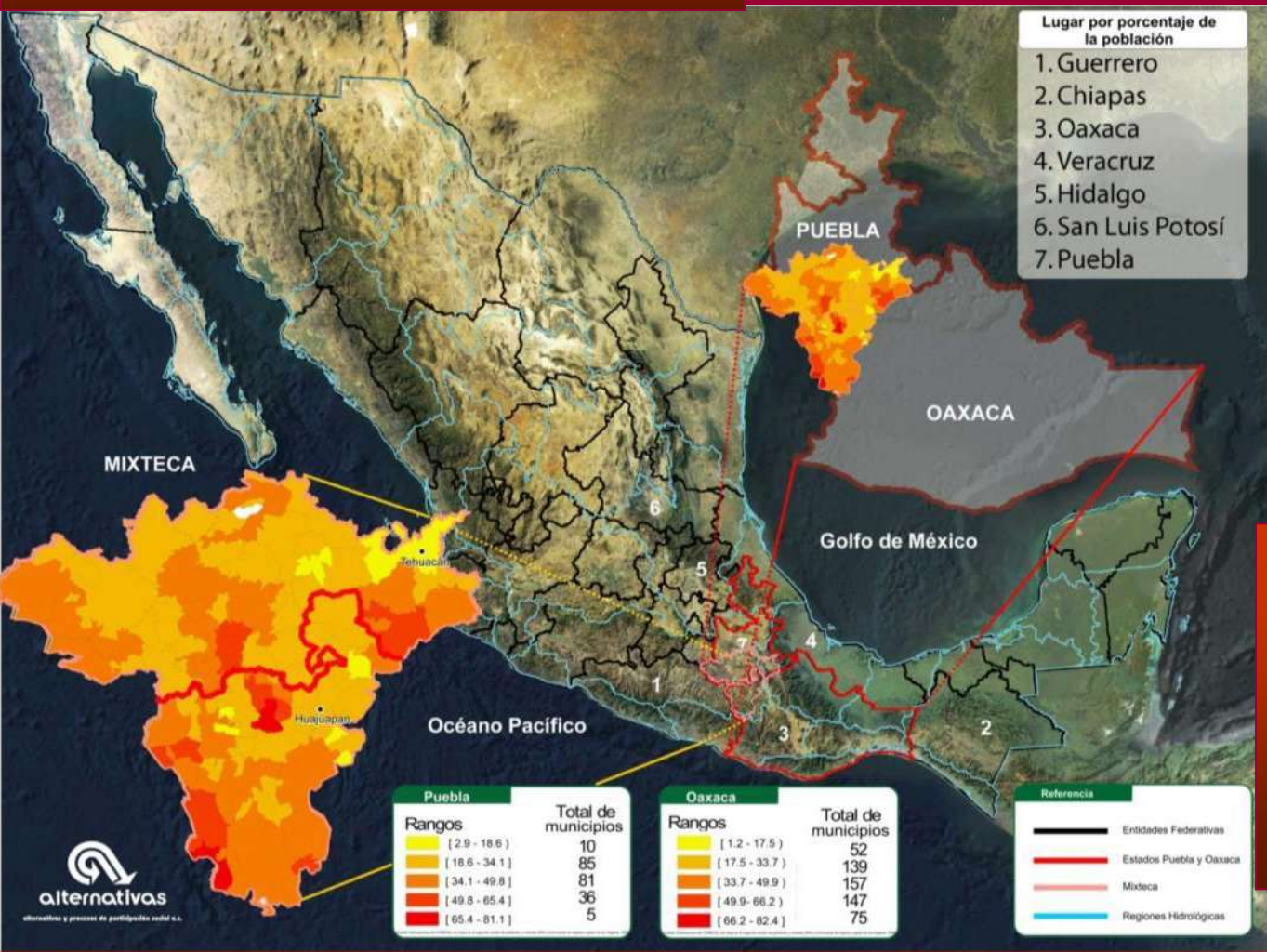
- ✓ **Inexpensive**
- ✓ **Eliminates pathogenic microorganisms**
- ✓ **Provides water and nutrients to vegetation**
- ✓ **Aquifer recharge**
- ✓ **Captures CO₂ from the atmosphere**
- ✓ **Avoid contamination in rivers, lakes, and oceans**

Sub nutrition :

“Poor absorption and/or poor biological use of nutrients consumed.”

FAO-UN

80% of indigenous people are poor



Indigenous children sub-nutrition = 44 a 67%

Source: Direct field measurement
 Alternativas y Procesos de Participación Social A.C. 2006-2017

Deaths by hunger

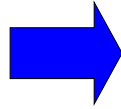
23 / day
 8,547 / Year
 102,000, 2000 – 2011

More than narcotics-traffic' violence. México INEGI 2013





Mexican Food Heritage



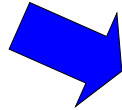
Alimentary + Culinary + Nutritional
Milpa = Maize, beans, amaranth and others



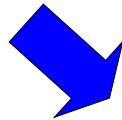
United Nations
Educational, Scientific and
Cultural Organization



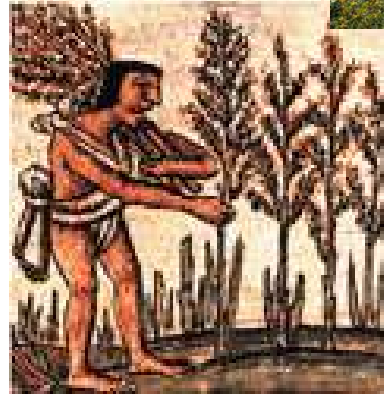
Intangible
Cultural
Heritage



Territorial
Hydro – agro – ecological



Historical subject:
Indigenous people



Rainwater harvesting

Water use optimization through drip irrigation (90% Water saved)





Quali Cooperative Group Model

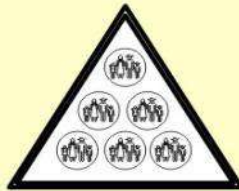


Families



En la base, cada familia es responsable de sus parcelas, produciendo granos orgánicos certificados de rico contenido proteínico.

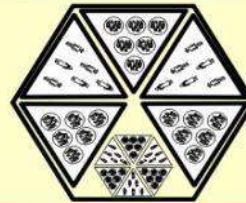
Cooperatives



Las familias se organizan en una cooperativa para obtener:

- ◆ Capacitación y asistencia técnica.
- ◆ Insumos.
- ◆ Maquinaria y equipos
- ◆ Comercialización segura y a precio justo.

Agro-industry



La unión de cooperativas acopia las cosechas en una agroindustria con innovación tecnológica, elaborando alimentos nutritivos, de calidad e inocuidad certificadas y premiadas.

Marketing



El Grupo Quali comercializa bajo las marcas Quali y Nutrivers, a través de su Red de Aliados, personas de alto compromiso social.

Watershed regeneration



Obtención de agua y enriquecimiento de suelos.

Rescate de la visión y tecnologías indígenas enriqueciéndolas con tecnología moderna.



Investment in innovation with own technology development

Education to farmers and students
Visits from roof lookouts



Look what we have done for you!

4 QUALITY
EDUCATION



Commitment to quality and consumer's health

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



7 AFFORDABLE AND
CLEAN ENERGY



8 DECENT WORK AND
ECONOMIC GROWTH



PREMIO NACIONAL
AGROALIMENTARIO

2012



2008
2005



Consejo Nacional Agropecuario

Año Internacional de las Cooperativas

Nutrition, Food safety, and Quality: certified and awarded.

Creation of personal, social, and intellectual capacities
Enrichment of the environment in marginalized indigenous regions.



Water care: Only :
✓ 1,000 liters per day
✓ No contamination



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



2 ZERO
HUNGER



Nutritious and delicious Amaranth Food



www.quali.com.mx

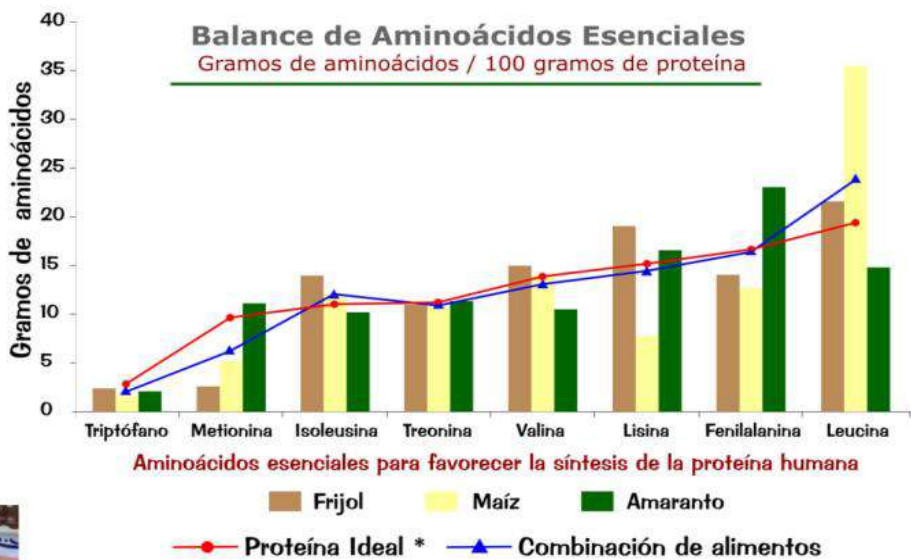
Cookies Protein bars Snacks Sweets Beverages Popped amaranth Flour

**Ethical imperative: overcome children malnutrition that perpetuates injustice
 Favor brain development in early infancy, before school age.**

Nutrition with Ideal protein



Expert nutritionists report that the best aminoacid- balance is reached with maize, beans and amaranth



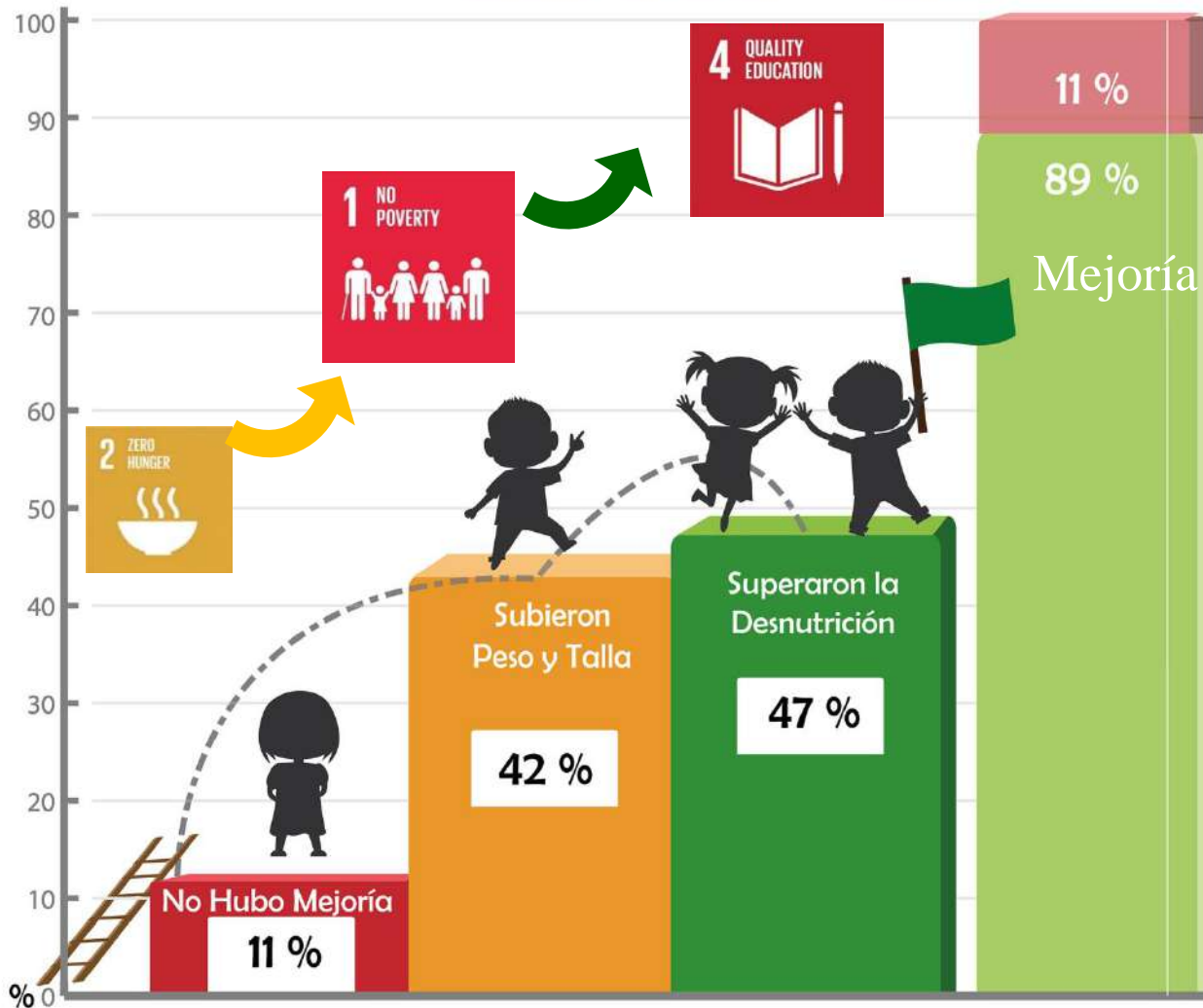
Grupo Cooperativo



Measured results 2007-2017: Over 90% recovery of good nutritional threshold

Edades: 0 a 5 años

Tratamientos: 6 a 12 meses

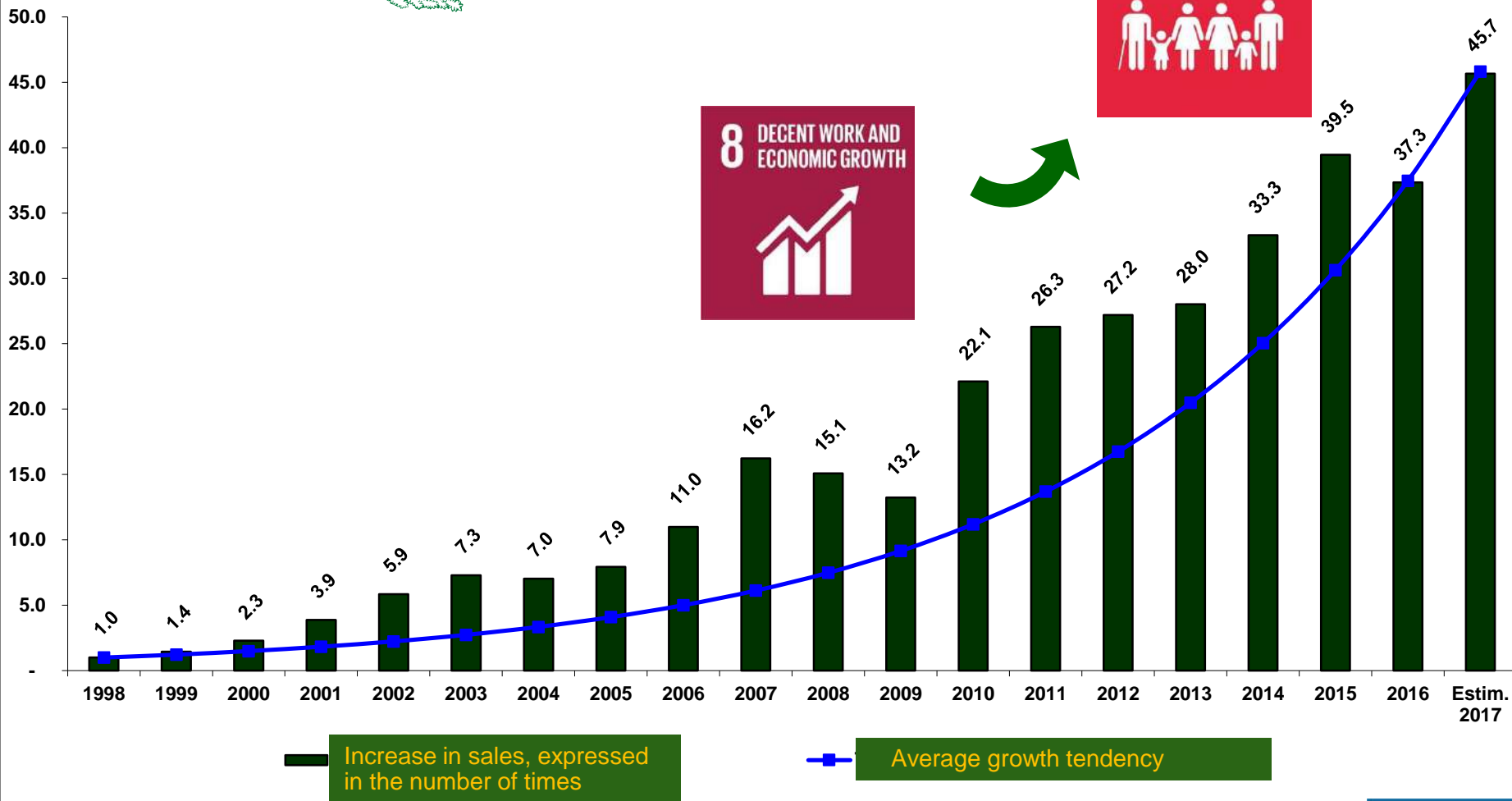
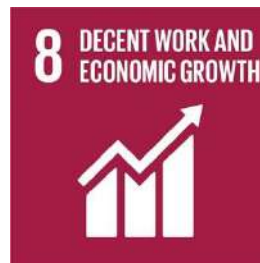


Reincorporation of amaranth in traditional families' preferred recipes

Economic sustainability for continual growth



Increase in Amaranth Food Sales 1998 - 2016
Grupo Cooperativo Quali



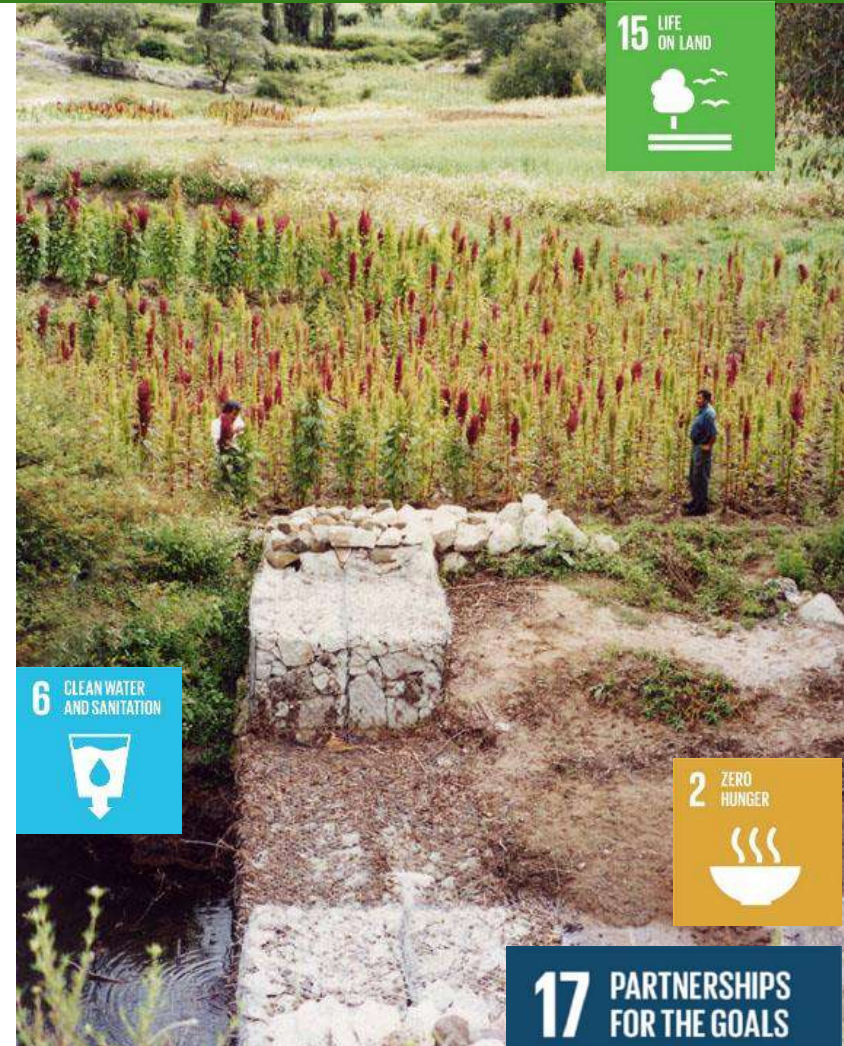
It is an equitable and solidary trade model based on economic justice.



Long-standing environmental, economic, social and cultural sustainable experience
38 years validation

Alternativas' experience shows the viability of sustainable regional development, through:

- ✓ **educational promotion of people's organized participation**
- ✓ **regeneration of watersheds' ecosystems**
- ✓ creation of **new kind of formal employment**, addressing essential needs
- ✓ **safe water availability,**
- ✓ **safe and nutritious food availability**
- ✓ generation of **increasing economic flows.**



Coincidence with: **UN Sustainable Development Goals 2015-2030**
UN Decade for Action in Nutrition 2016-2025, and
“Laudato si, on care of common home”. Francis 2015

Conscience and organized-action capabilities

**224,000 enriched people through educational activities
2001 2017**



Public opinion and conferences 59,000

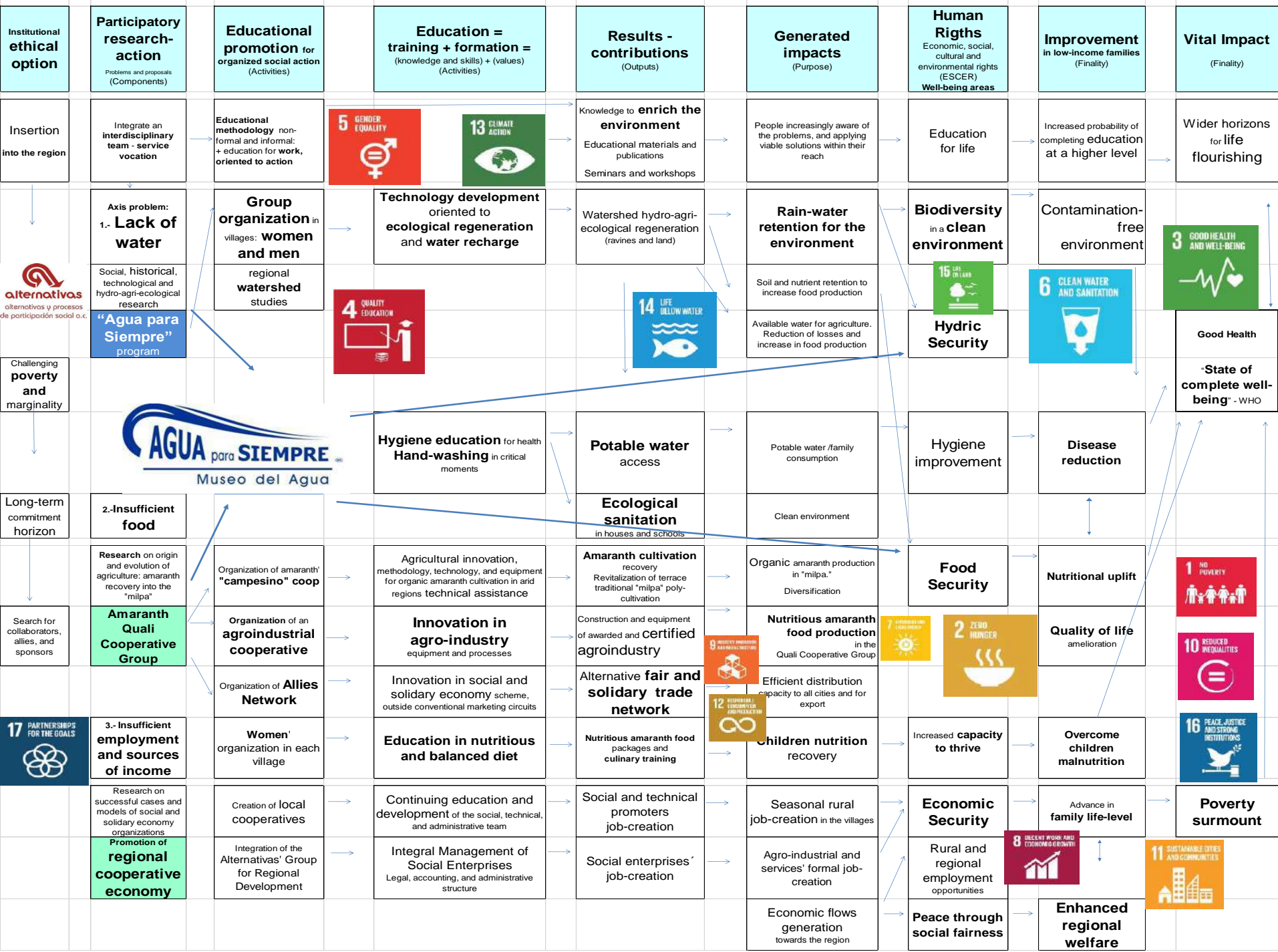
Workshops and courses 48,000

Water Museum visitors 140,000

- Workshops and courses or watershed regeneration
- Public opinion and conferences
- Number of educational activities
- Water Museum visitors
- Total of people



Change requires motivations and an educational way



Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. UN - WHO



National and International Awards

PREMIO MEJOR EXPERIENCIA DE DESARROLLO RURAL SUSTENTABLE

2015



"Agua para Siempre – Seguridad hídrica y alimentaria para combatir la pobreza".

Premio Primer Lugar



Iniciativa México

Bicentenario



PREMIO LATINOAMERICANO Y DEL CARIBE DE AGUA



2005



2012

PREMIO NACIONAL AGROALIMENTARIO

2012



2008
2005

Consejo Nacional Agropecuario

Año Internacional de las Cooperativas

PREMIO MÉXICO CALIDAD SUPREMA



2005

PREMIO INAH POR RESCATE DE TRADICIÓN HIDROAGROECOLÓGICA



2004

DOCTORADO HONORIS CAUSA CIENCIAS SOCIALES Y HUMANIDADES



2001

2008 PREMIO Educación Financiera SABER CUENTA

PREMIO AL MÉRITO ECOLÓGICO



2005

PREMIO ESTATAL PUEBLA A LA CALIDAD



2003

PREMIO POR TECNOLOGÍA CONTRA LA DESERTIFICACIÓN



1998

PREMIO INTERNACIONAL SLOW FOOD POR LA DEFENSA DE LA BIODIVERSIDAD



2002

PREMIO POR IMPULSO A PEQUEÑOS PRODUCTORES DIF



2002

PREMIO POR TECNOLOGÍAS PARA EL CONTROL DE LA DEGRADACIÓN DE SUELOS



1996

PREMIO AL MÉRITO POR LA EQUIDAD LABORAL



2001

PREMIO NACIONAL DE SOLIDARIDAD POR ACCIONES DE COMBATE A LA POBREZA



1992





**Iniciativa México
Bicentennial - 2010**



**Next challenge: share this
regional development sustainable model
and motivate to follow it.**

You are all invited to participate!



Let's rain together !



Regional
Bureau
for Science
and Culture
in Europe



International
Hydrological
Programme



Università
Ca' Foscari
Venezia



**It is really in our
hands!**



**Iniciativa México
Bicentenario - 2010**



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