



**Transport Day**  
2013 • Warsaw

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Zusammenarbeit (GIZ) GmbH

# Insurance in the context of climate change adaptation

Experiences from a BMU/IKI project in Peru,  
implemented by GIZ

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Bridging the gap

Pathways for Transport in the Post 2012 Process



Partnership on Sustainable  
Low Carbon Transport

# Peru: Insurance for Climate Change Adaptation

Project funded by the **International Climate Initiative (IKI)** of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (**BMU**)

Implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (**GIZ**) GmbH

**Duration:** November 2010 to October 2013

**Project region:** Departments of Piura, Lambayeque and La Libertad, northern Peru

**Target groups:** Businesses, producer organizations, regional government institutions

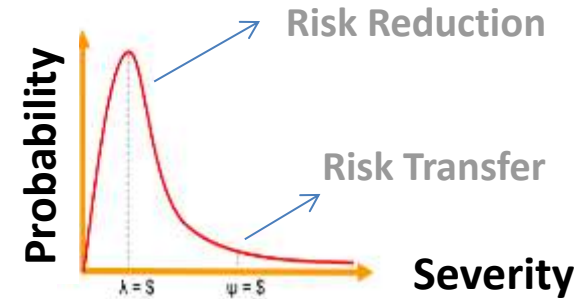
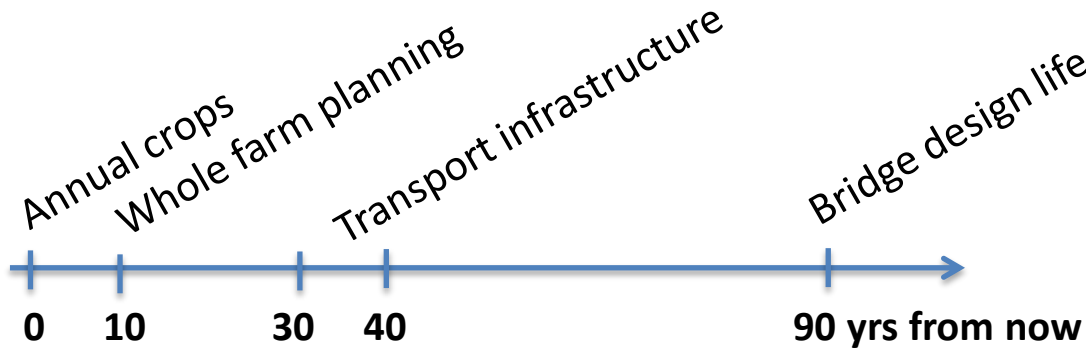
**Objective:** Protect assets against extreme climatic events through new, innovative insurance products

## Partners:

- Superintendence of Banks, Insurance and Pension Fund Administrators (SBS)
- Ministry of Economics and Finance (MEF)
- Ministry of Agriculture and Irrigation (MINAGRI)
- Regional governments of Piura, Lambayeque and La Libertad
- Financial and insurance companies



# Integrated Risk Management Approach



- Develop inventory of assets
- Determine hazards/risks

## Identification of risk

- Develop model of hazards/risks
- Develop vulnerability model

## Risk analysis

- Decisions: build new bridges or maintain existing infrastructure
- Prepare / maintain infrastructure for extreme events

## Risk prevention/reduction

- Develop financial risk management strategy
- Use variety of financial instruments (retention / transfer)

## Risk transfer/retention



# Impact of an extreme El Niño Phenomenon on the transport sector

- Deterioration or total destruction of streets, bridges etc.
- Interruption of transit and commerce
- Increase of transport and shipping costs
- Isolation of rural agricultural areas, and rural townships: problems for export

Losses per sector incurred by extreme El Niño Phenomena (1983 and 1998) in Peru in millions of US\$

Sector and sub-sector	1982-1983	% sector	1997-1998	% sector
<b>Total</b>	<b>3283</b>	<b>100.0%</b>	<b>3500</b>	<b>100.0%</b>
<b>Social sectors</b>	<b>218</b>	<b>6.6%</b>	<b>485</b>	<b>13.9%</b>
Housing	115	53%	222	46%
Education	9	4%	228	47%
Health	94	43%	35	7%
<b>Productive Sectors</b>	<b>2533</b>	<b>77.2%</b>	<b>1626</b>	<b>46.5%</b>
Agriculture and Livestock	1064	42%	612	38%
Fishing	174	7%	27	2%
Mining	509	20%	44	3%
Industry	786	31%	675	42%
Commerce	0	0%	268	16%
<b>Infrastructure</b>	<b>532</b>	<b>16.2%</b>	<b>1389</b>	<b>39.7%</b>
<b>Transport</b>	<b>497</b>	<b>93%</b>	<b>686</b>	<b>49%</b>
Electricity	32	6%	165	12%
Other	3	1%	538	39%
<b>Percentage of GDP %</b>	<b>7.0%</b>		<b>5.0%</b>	

Source: Estimations made by CAF, on the basis of numbers provided by ECLAC



# The Extreme El Niño Index Insurance Product

Based on sea-surface temperature, data published by NOAA (National Oceanic and Atmospheric Administration, US)

Index is measured in November and December

⇒ payment can be made in January, before catastrophic flooding and losses have occurred

⇒ emergency preparation and some preventive actions can be carried out:

- reinforce vulnerable infrastructures, such as bridges, streets, canals etc.
- avoid their total destruction
- do any other kind of emergency works

## Advantages

- Promotes disaster risk planning, risk mitigation and adaptation strategies
- Rapid processes and lower transaction costs
- Allows for the continuity of development processes
- Transfers risks to specialized entities
- Reduces financial burden on the state and incentivizes investment



# Final reflections

**Lesson Learned:** It is necessary to

- a) adapt financial instruments to the specific sector of intervention and
- b) to develop different instruments for different types of risks.

FIGURE 4. FINANCIAL INSTRUMENTS FOR RISK RETENTION AND TRANSFER REGARDING CLIMATE RISK MANAGEMENT IN DEVELOPING COUNTRIES

Approximate return period	Types of financial coverage instruments	Maximum likely loss with insurance (in millions of USD)*
> 500 years	Without coverage	750
50 years	Public assets insurance Parametric instruments (insurance, bonds, etc.) Lines of credit / budget reassignment	250
10 years	Reserve fund	50

Note:

\* An example to illustrate a medium sized Central American country (with no connection to any real nation).

Source: Ghesquiere (2008).







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# Thank you!

On behalf of



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