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# Knowledge for Sustainable Development

Your  
global  
future  
**begins**  
here

College of Business and Finance

Professor Amer Al Roubaie

“Knowledge is a cornerstone of development, and its importance is increasing in an age of accelerating technological change and globalization. It is a public good that underpins economies, politics and societies, permeating all aspects of human activity.”

(AHDR 2002, P. 6)

Knowledge is like light. Weightless and intangible, it can easily travel the world, enlightening the lives of people everywhere. Yet billions of people still live in the darkness of poverty—unnecessarily.

World Bank 1998/99

# Importance of Knowledge

- Empower people
- Increase productivity
- Promote innovation
- Reduce gender inequalities
- Increase competitiveness
- Improve people well beings
- Create wealth
- Enhance equity
- Eradicate poverty
- Sustain development

# Megatrends shaping our future (OECD)



 **SUSTAINABLE DEVELOPMENT GOALS**



# Goals and Targets: The Millennium Development Goals 2030

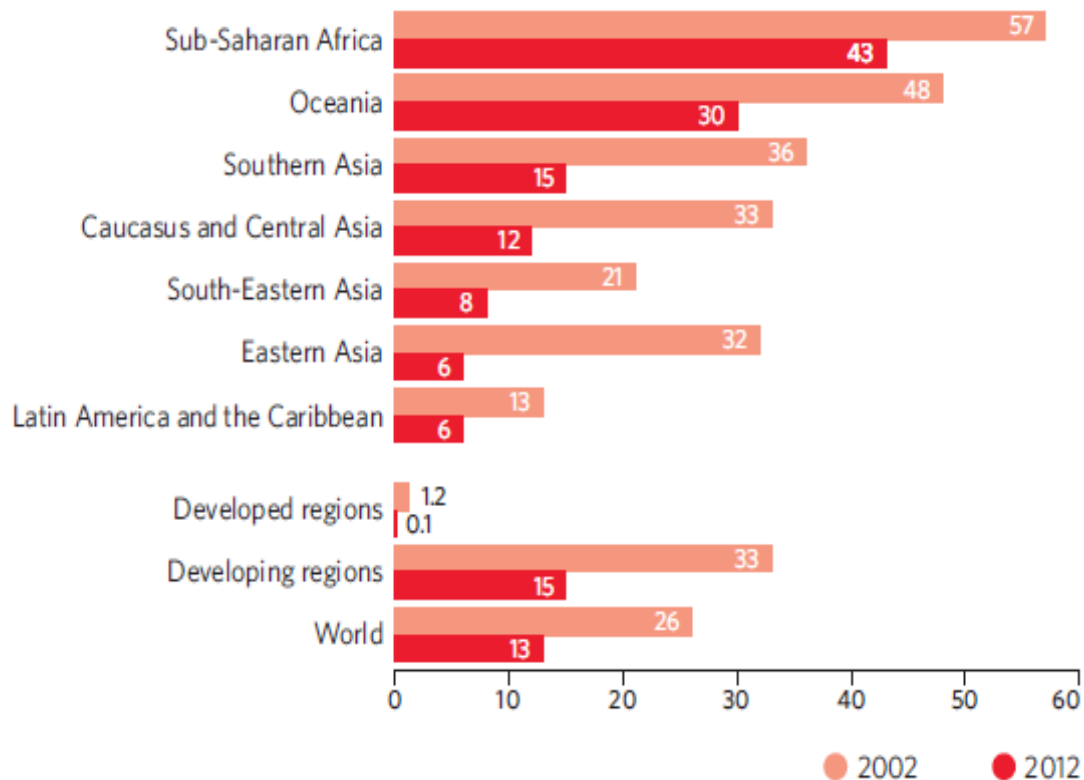
- People – end of poverty and hunger
- Planet – protect the planet from degradation
- Prosperity – Ensure that all human beings can enjoy prosperous and fulfilling lives
- Peace – to foster peaceful, just and inclusive societies
- Partnership – global partnership for sustainable development

## Poverty Focus: MDG

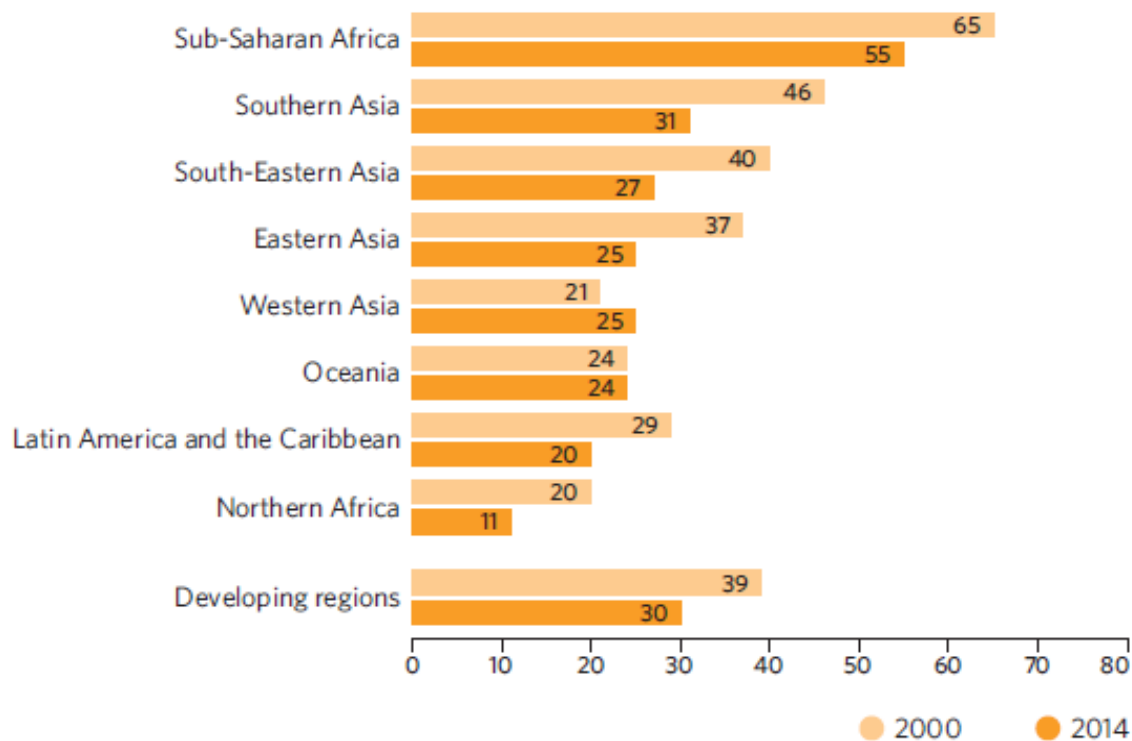
- **Eradicate extreme poverty and hunger**
- **Achieve universal primary education**
- **Promote gender equality and empower women**
- **Reduce child mortality**
- **Improve maternal health**
- **Combat HIV/AIDS and other diseases**
- **Ensure environmental sustainability**
- **Global partnership for development**



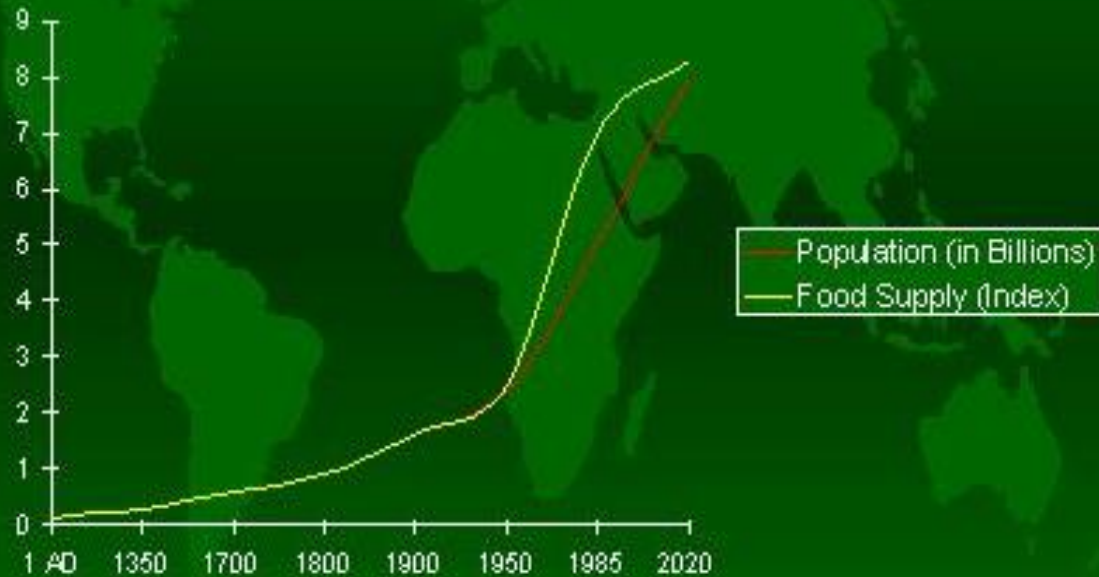
Proportion of the population living below 1.90 US dollars a day, 2002 and 2012  
(percentage)



**Proportion of urban population living in slums, 2000 and 2014 (percentage)**

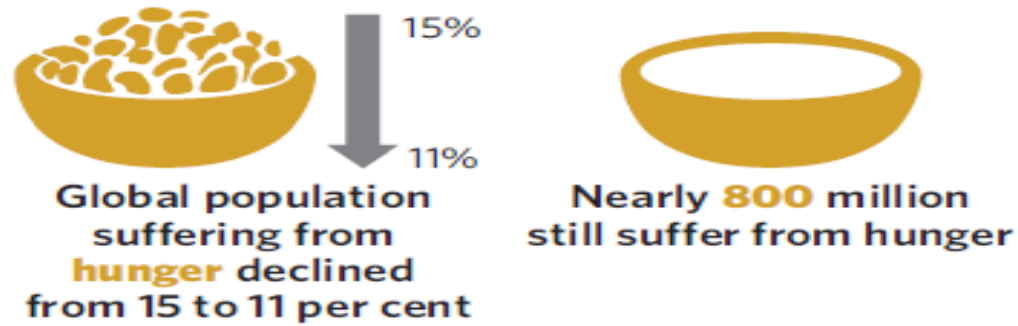


# Population & Food



Food & Agriculture Organization (FAO)







**59 million** children of primary school age were out of school in 2013



757 million adults were unable to read and write in 2013, **two-thirds** were women



**663 million** still use unimproved water sources



**2.4 billion** are without improved sanitation

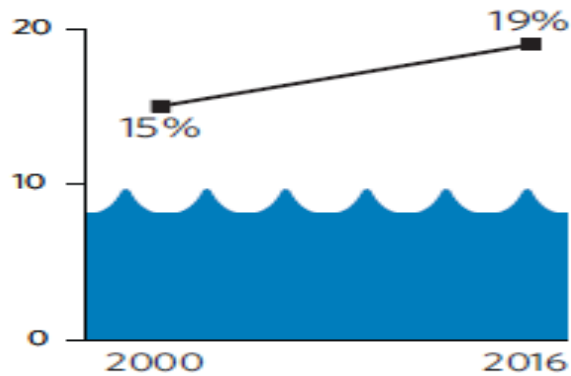


**2 billion** worldwide affected by water stress



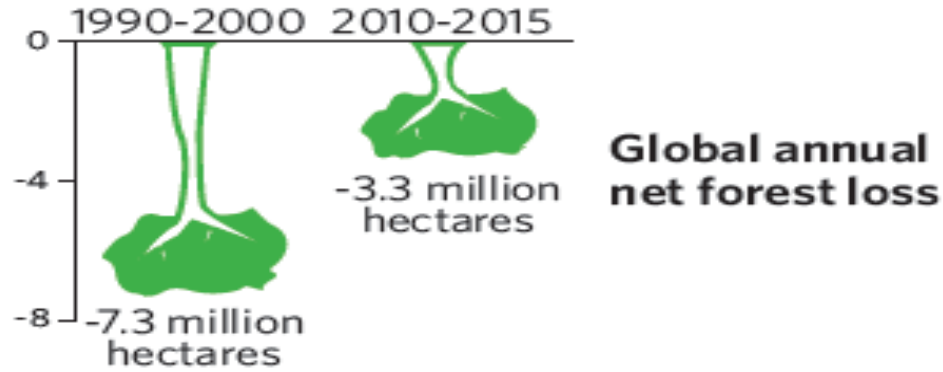
Integrated Water Resources Management plans in **every region** of the world

### Proportion of fish stocks within biologically sustainable levels



Proportion of  
marine key  
biodiversity areas  
under protection  
worldwide





Over **23,000** species face extinction across the globe

# Narrowing the Knowledge Gap

- **Acquiring knowledge**
- **Absorbing knowledge**
- **Communicating knowledge**

# Acquiring knowledge

- Access to global knowledge
- Producing knowledge at home

# Absorbing Knowledge

- Education as a lifelong process
- Building capacity for knowledge-based economy
- Government policy towards education
- Helping poor people pay for education
- Upgrading education – new curricula, more active role of universities

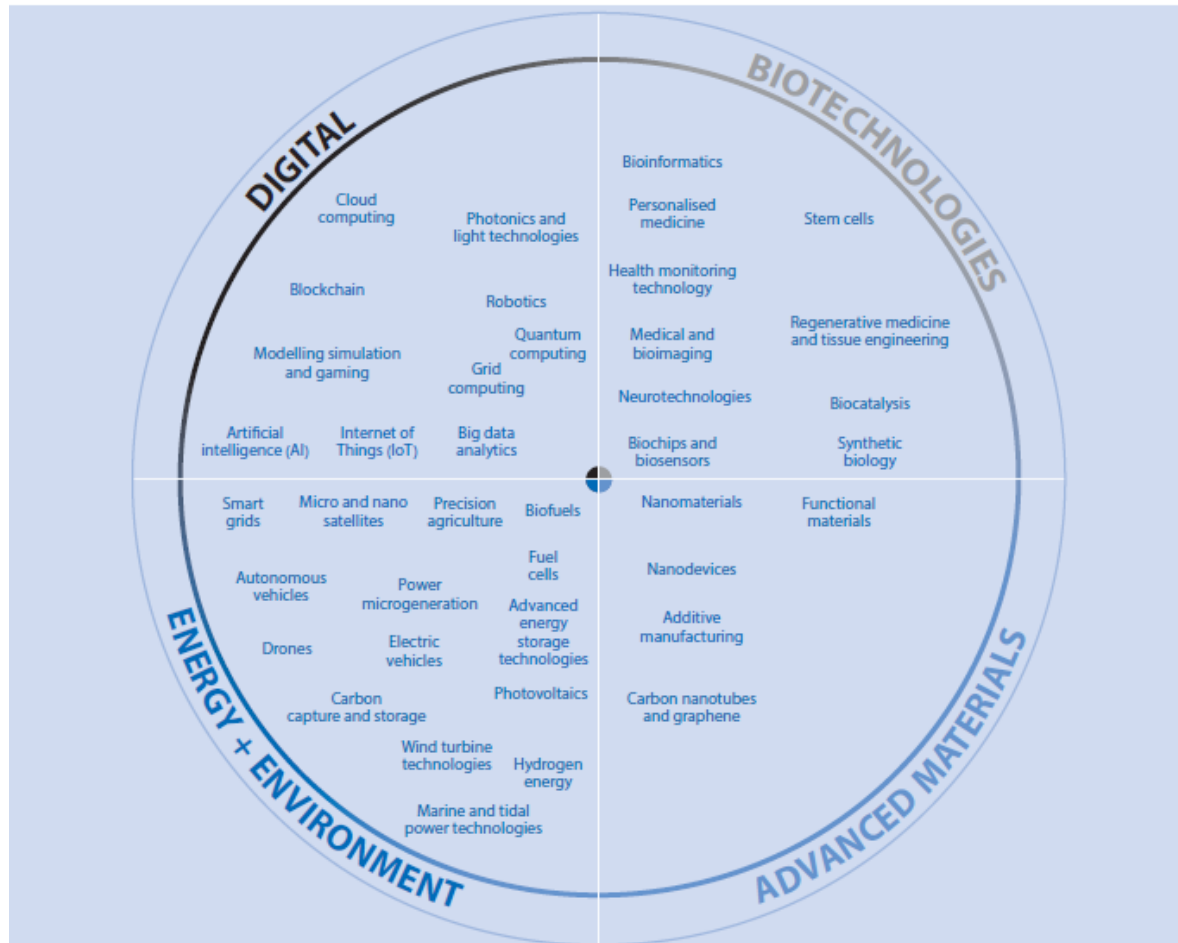
# Access to Global Knowledge

- International Trade
- FDI
- Technology transfer
- Travel and migration
- National knowledge policy

# Production knowledge at home

- Government funded R&D
- Private R&D
- Indigenous knowledge and local demand

# Key technologies for the future (OECD)



# Education Matters

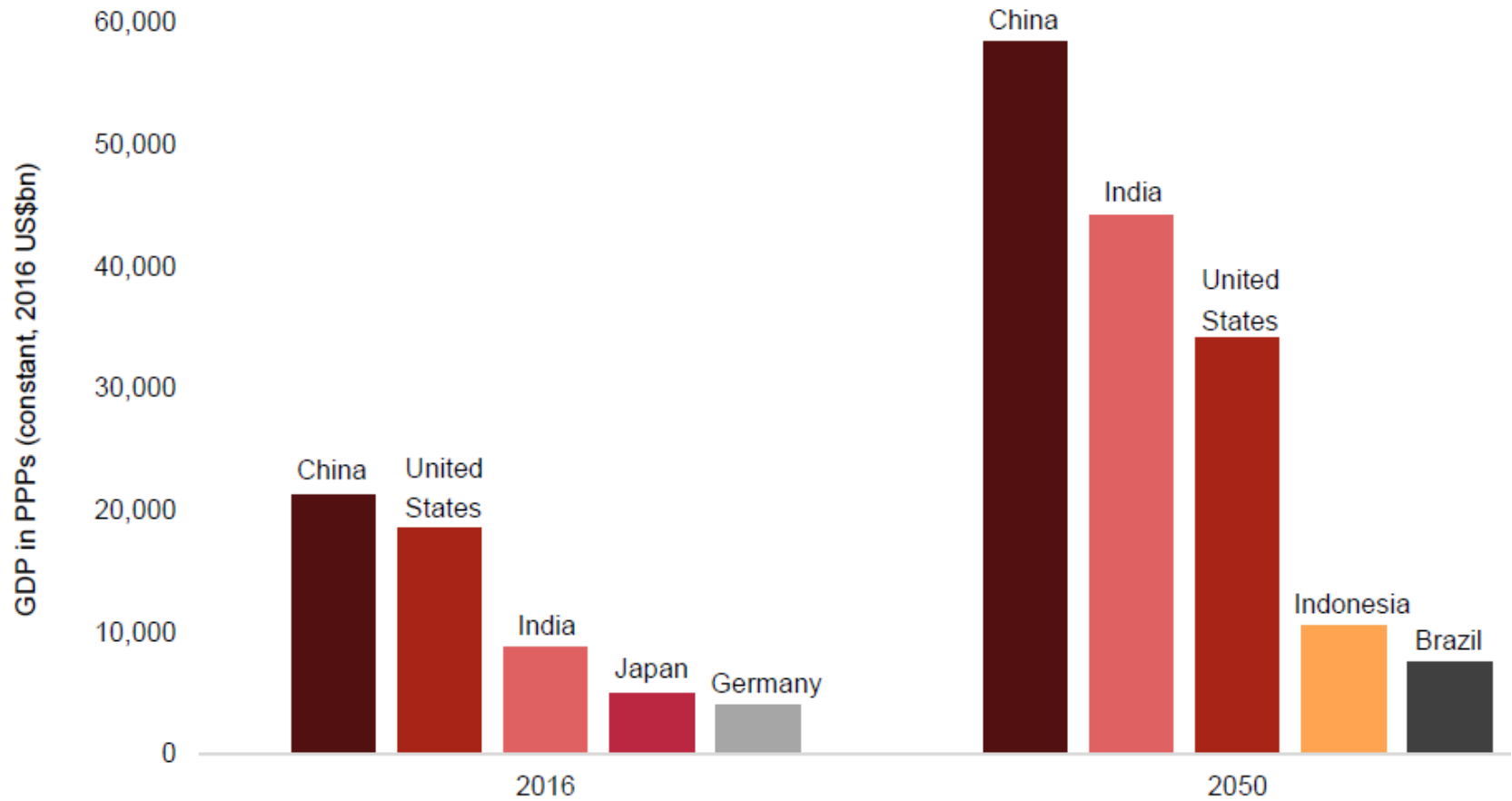
- Knowledge and education
- Knowledge infrastructure
- Investment in people
- Creation of new knowledge
- Global knowledge with local knowledge



“Many universities throughout the developing world were established on the Western model during the colonial period rather than being developed indigenously in the cultures in which they were located.”

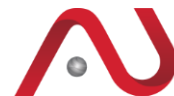
(Jean L. Pyle)

# The world in 2050



## Share of Total Global R&D Spending

	2014	2015	2016
North America	29.1%	28.5%	28.4%
U.S.	26.9%	26.4%	26.4%
Caribbean	0.1%	0.1%	0.1%
All North America	29.2%	28.5%	28.5%
Asia	40.2%	41.2%	41.8%
China	19.1%	19.8%	20.4%
Europe	21.5%	21.3%	21.0%
Russia/CIS	3.1%	2.9%	2.8%
South America	2.8%	2.6%	2.6%
Middle East	2.2%	2.3%	2.3%
Africa	1.0%	1.1%	1.1%
Total	100.0%	100.0%	100.0%



# What is GREEN REVOLUTION?

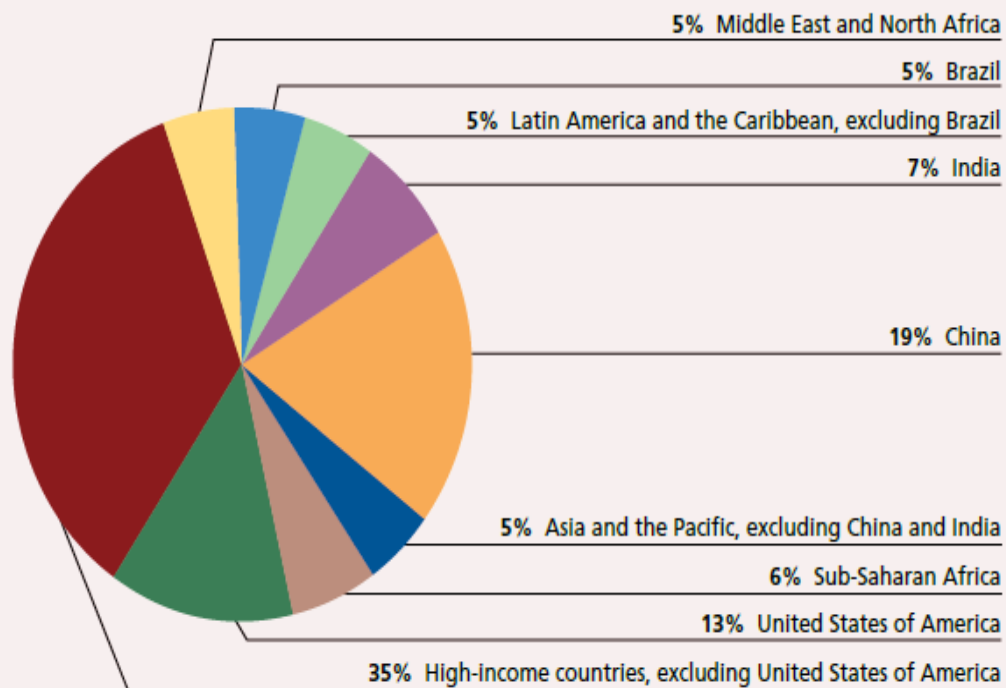
GREEN REVOLUTION: **refers to a large**

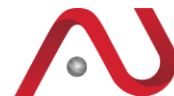
**increase in crop  
production by  
using modern  
agricultural  
techniques.**



### Geographic distribution of public expenditure on agricultural R&D, 2009

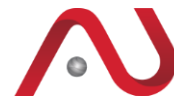
Total = 33.6 billion (2005 PPP dollars )





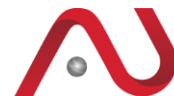
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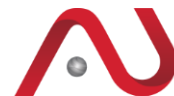




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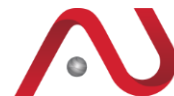


**Innovation in family farming**

# Empowering women to end hunger and poverty

**Rural women: a driving force against hunger, malnutrition and poverty**

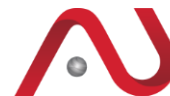




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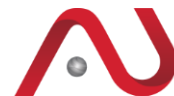


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**NEPAL**

Harvesting Tea.  
©FAO



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**NIGER**

Everyday scenes of a pastoralist collecting water. Action Against Desertification is an initiative to promote sustainable land management and restore drylands and degraded lands.  
©FAO/G. Napolitano

**FIGURE 2.2 Where Are the Global Poor Living? The Global Poor, by Region, 2013**

Share of global poor by region (%)

