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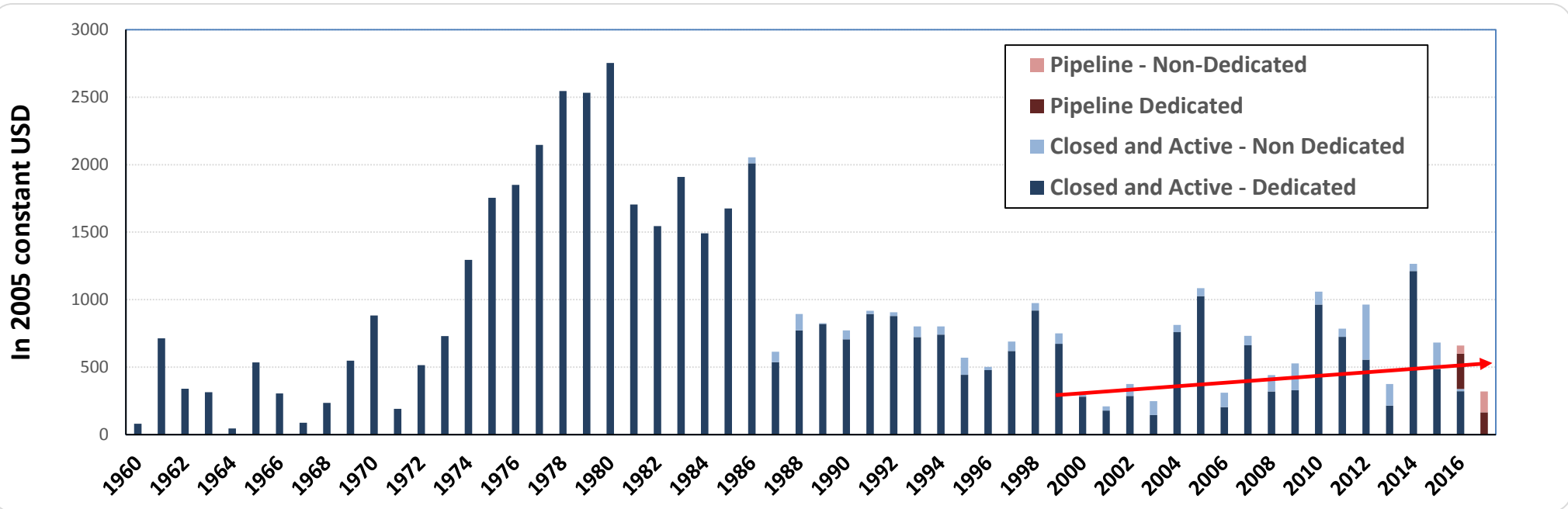
Small-Scale and Large-Scale Irrigation and Drainage Investments: The World Bank Perspective

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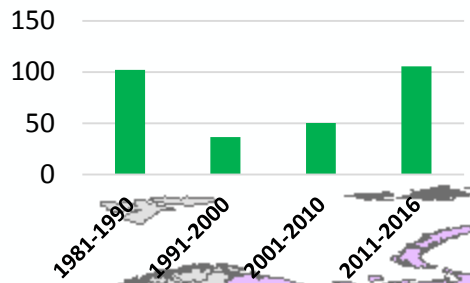
World Bank commitments related to irrigation and drainage ...



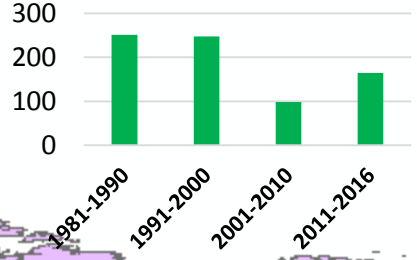
Investments in irrigation and drainage peaked between mid-1970 and mid-1980, followed by a sharp decline. A “weak” renewed interest has been observed since FY 2002 ...

Regional Trends: Average annual commitments (in 2005 constant million USD)...

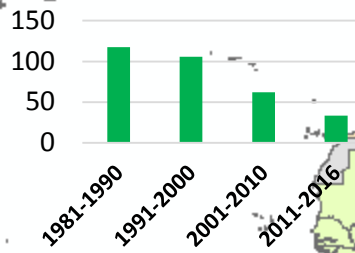
EUROPE AND CENTRAL ASIA



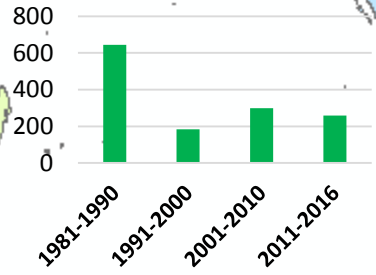
EAST ASIA AND PACIFIC



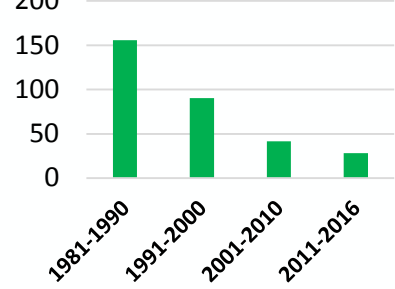
MIDDLE EAST AND NORTH AFRICA



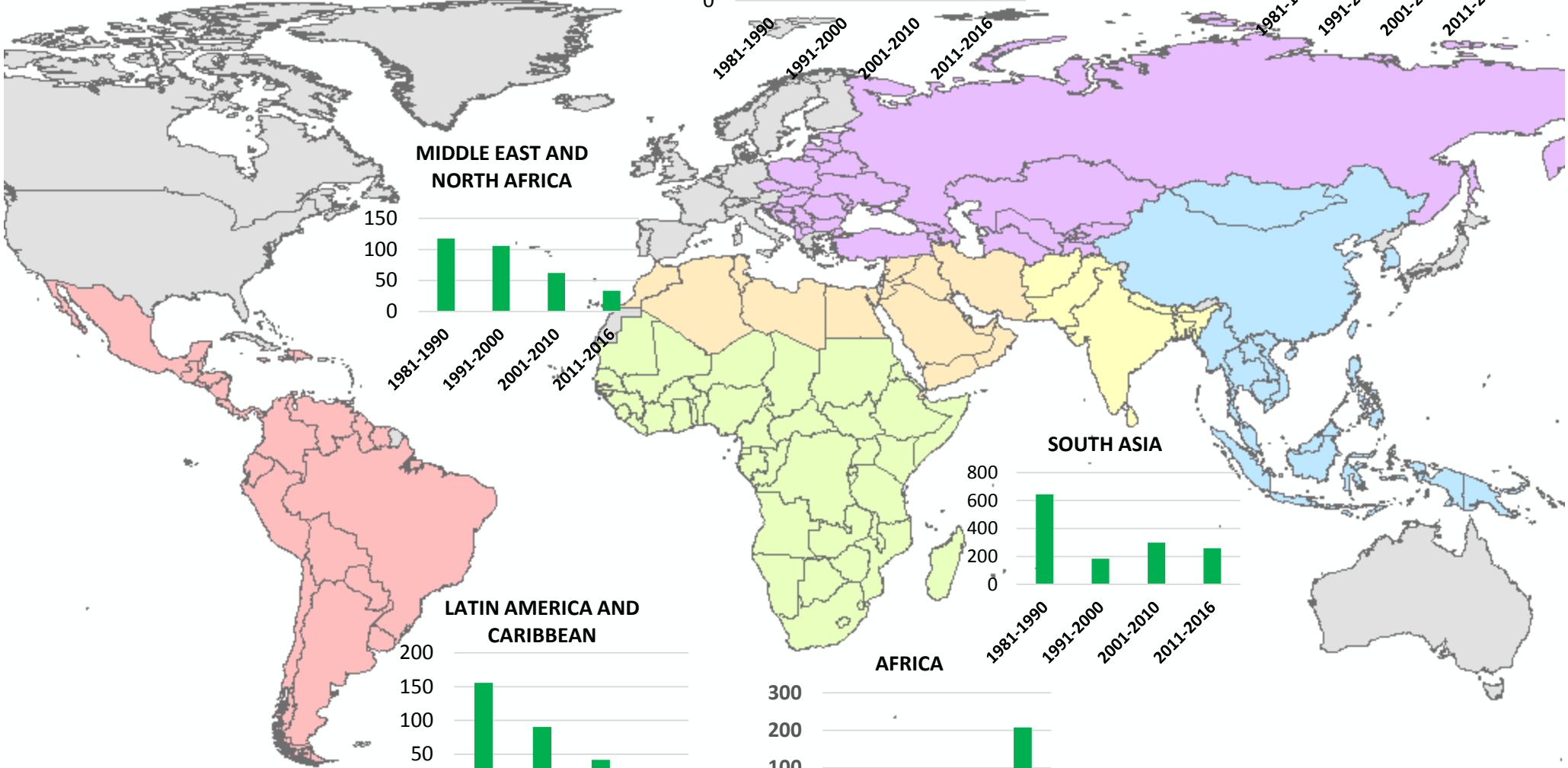
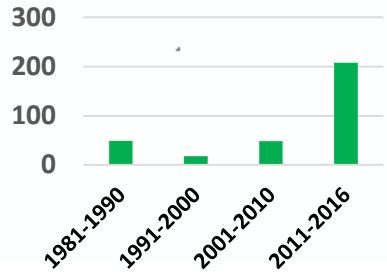
SOUTH ASIA



LATIN AMERICA AND CARIBBEAN



AFRICA

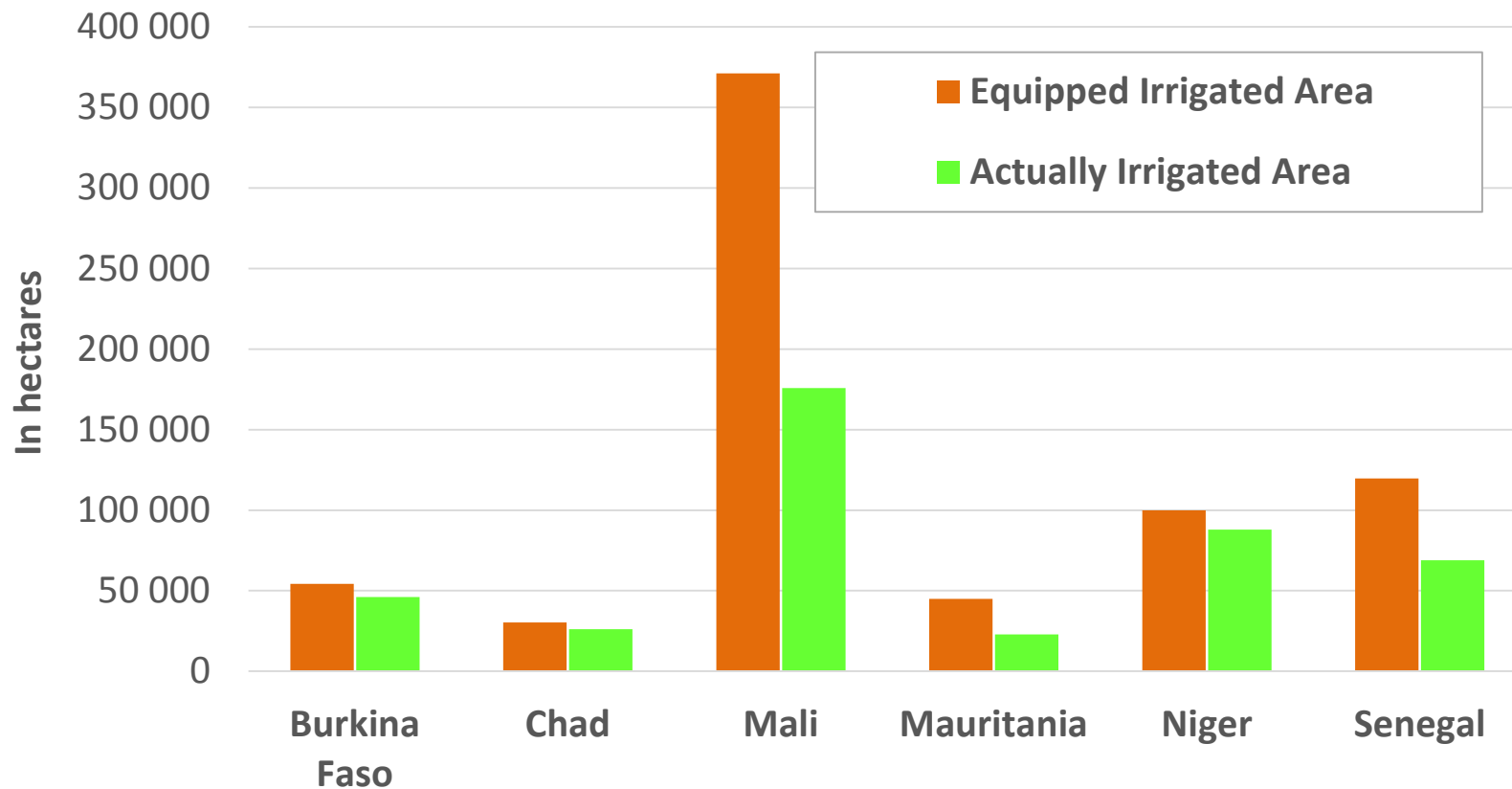


Irrigation remains highly relevant ...

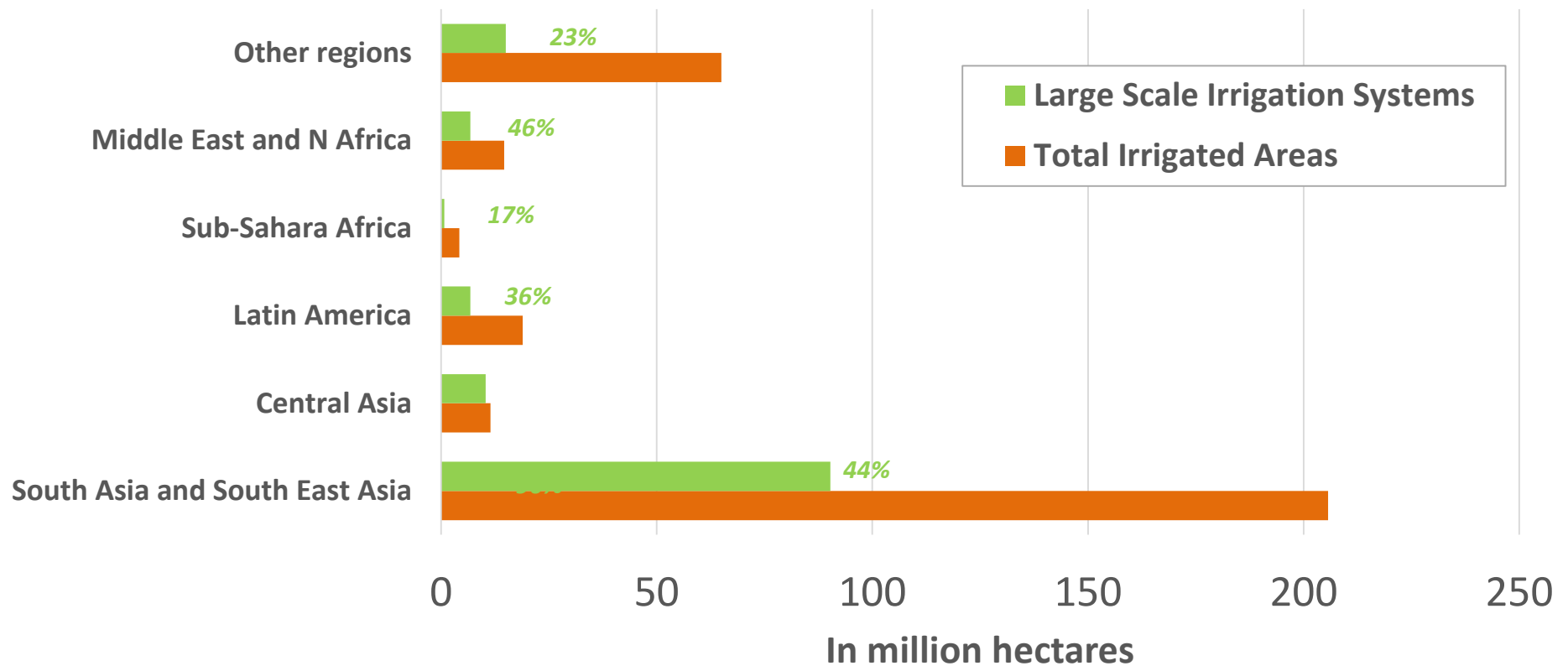
- Irrigation and drainage projects provide potential opportunities to boost resilience through food production, income generation and job creation.
- Irrigation and drainage projects can make substantial contributions to the Sustainable Development Goals for water and food security.
- Irrigated agriculture will continue playing a key role in meeting increasing food demands

With only a share of equipped irrigated land actually irrigated, there is room for improvement ...

The Case of the Sahel Region ~ 300,000 ha (40%)

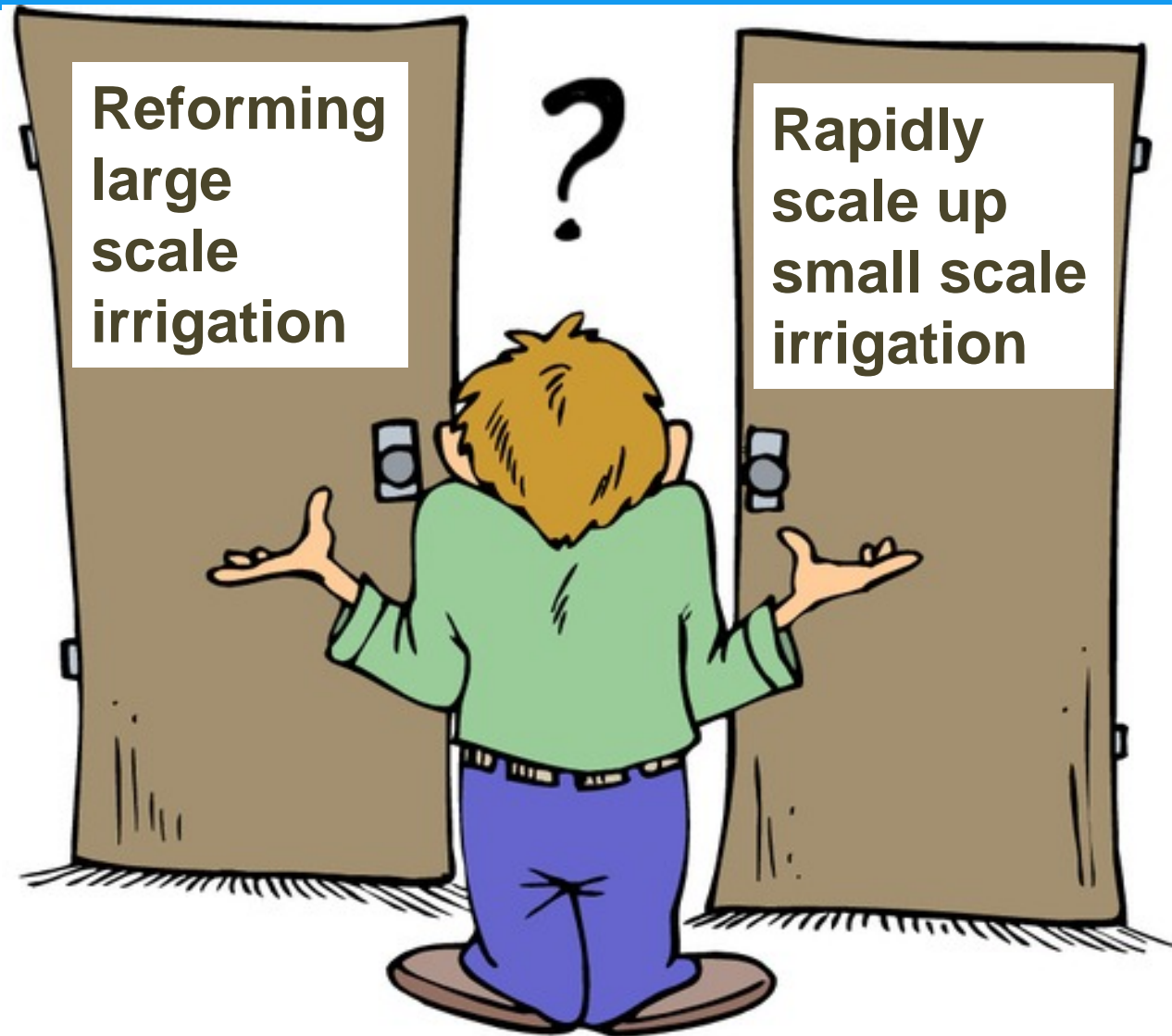


Large-scale irrigation systems in MIC and transition economies account for about 115 million ha or 45 percent of total area under irrigation ...



Source: Lankford et al. (2016)

How to operationalize country irrigation strategies and programs and achieve ambitious targets?



Large-scale Irrigation Systems ...

- Are aging
- Need rehabilitation/modernization
- Some were poorly designed (no attention to drainage/soil degradation)
- Have low utilization, so potential for improvement of existing systems
- In some cases, have low productivity
- Economies of scale, but in some parts of Africa, new schemes exhibit high construction costs
- Limited institutional capacity to manage them
- Interest from private sector to manage parts of the system

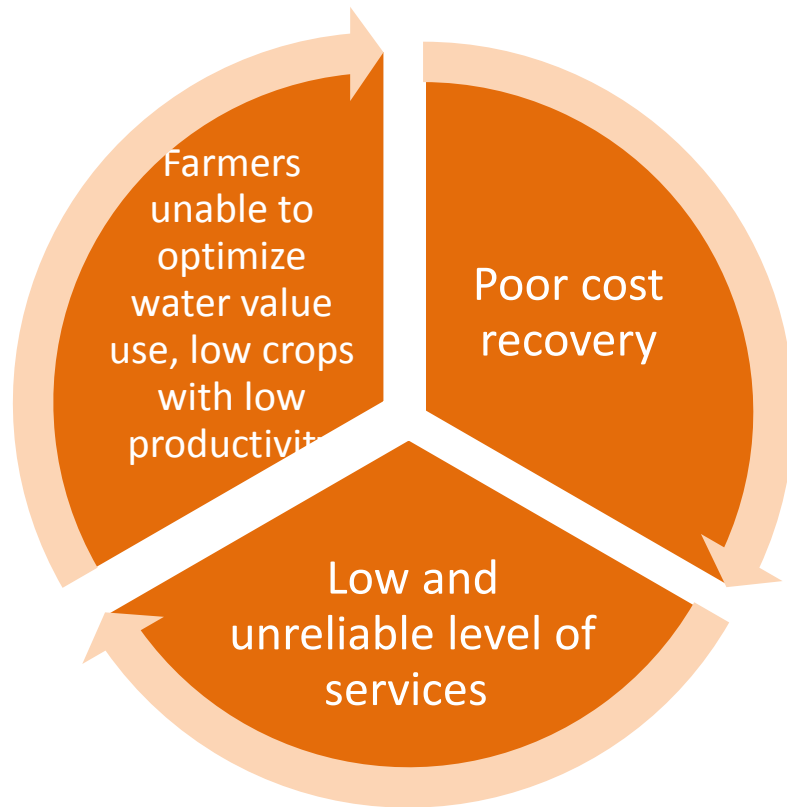


Medium- and Small-scale Irrigation Systems ...



- Considered easier to develop/manage
- Few villages are covered, better cohesion within farmers
- Mixed results of small-scale public supported schemes
- Farm-scale individual schemes tapping shallow wells with interest to modernize on-farm infrastructure
- Commercial privately owned schemes tapping aquifers
- Water energy nexus not well understood

In both cases we face an issue of sustainability: Business as usual has to stop, innovation is needed to shifting from vicious to virtual circle ...

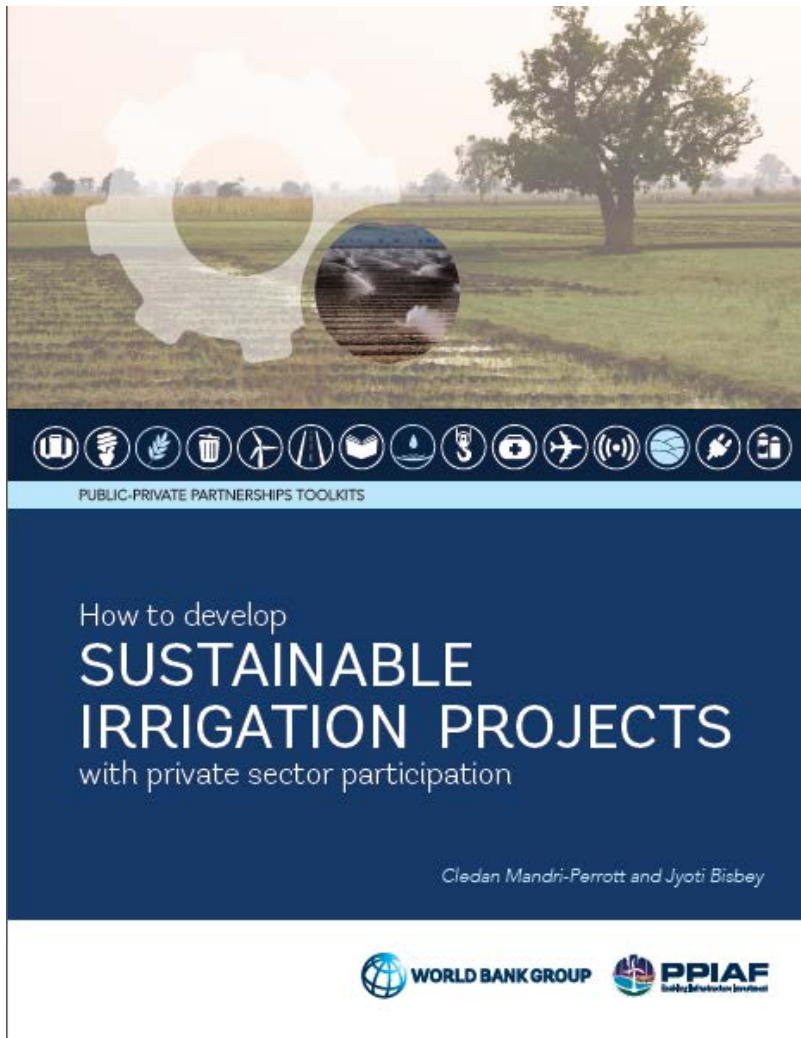


Large-scale Irrigation

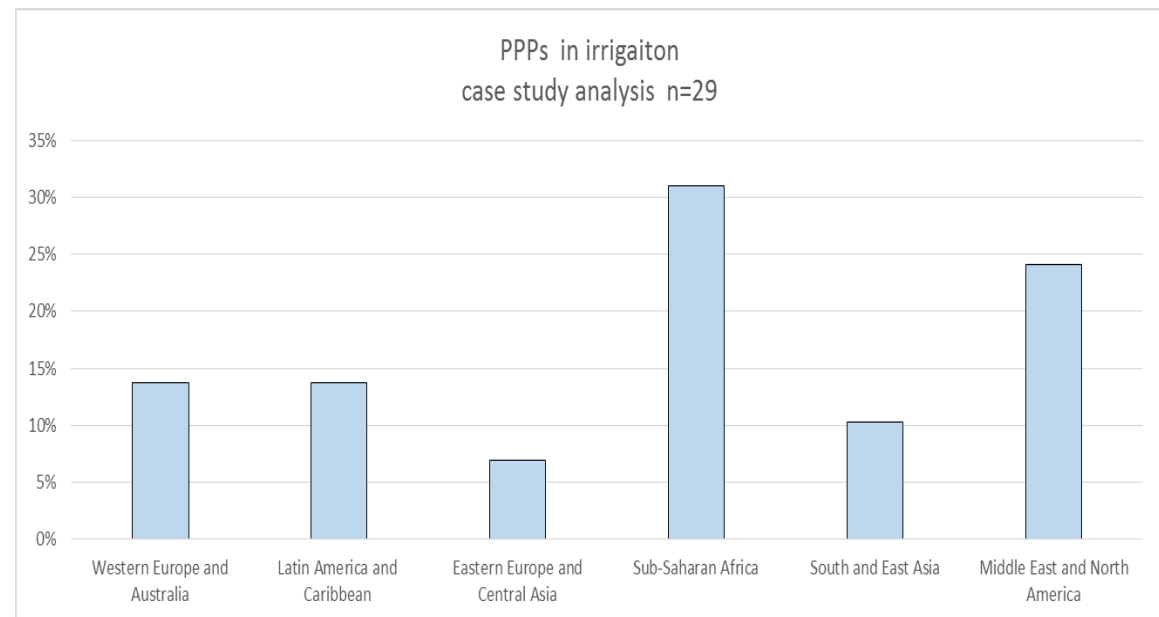
Lesson 1: Involvement of a “professional third party” is required for effective, efficient and sustainable development and operation of large-scale irrigation schemes

- Large-scale irrigation schemes require huge investments, are costly to implement and it takes years for them to achieve sustainability.
- External support in the form of “professional third party” is needed to bring innovative solutions, to design with low-cost operation and maintenance considerations in mind, and keep costs under control.
- “Professional third party” can involve public or private sector bodies or the combination of any of them.
 - Investments in large-scale irrigation schemes present good opportunities to introduce Public-Private Partnership (PPP) arrangements.

Toolkit - Irrigation Projects with PPP ...



Toolkit approach based on case studies



Lesson 2: Extremely important to build institutional capacity at front

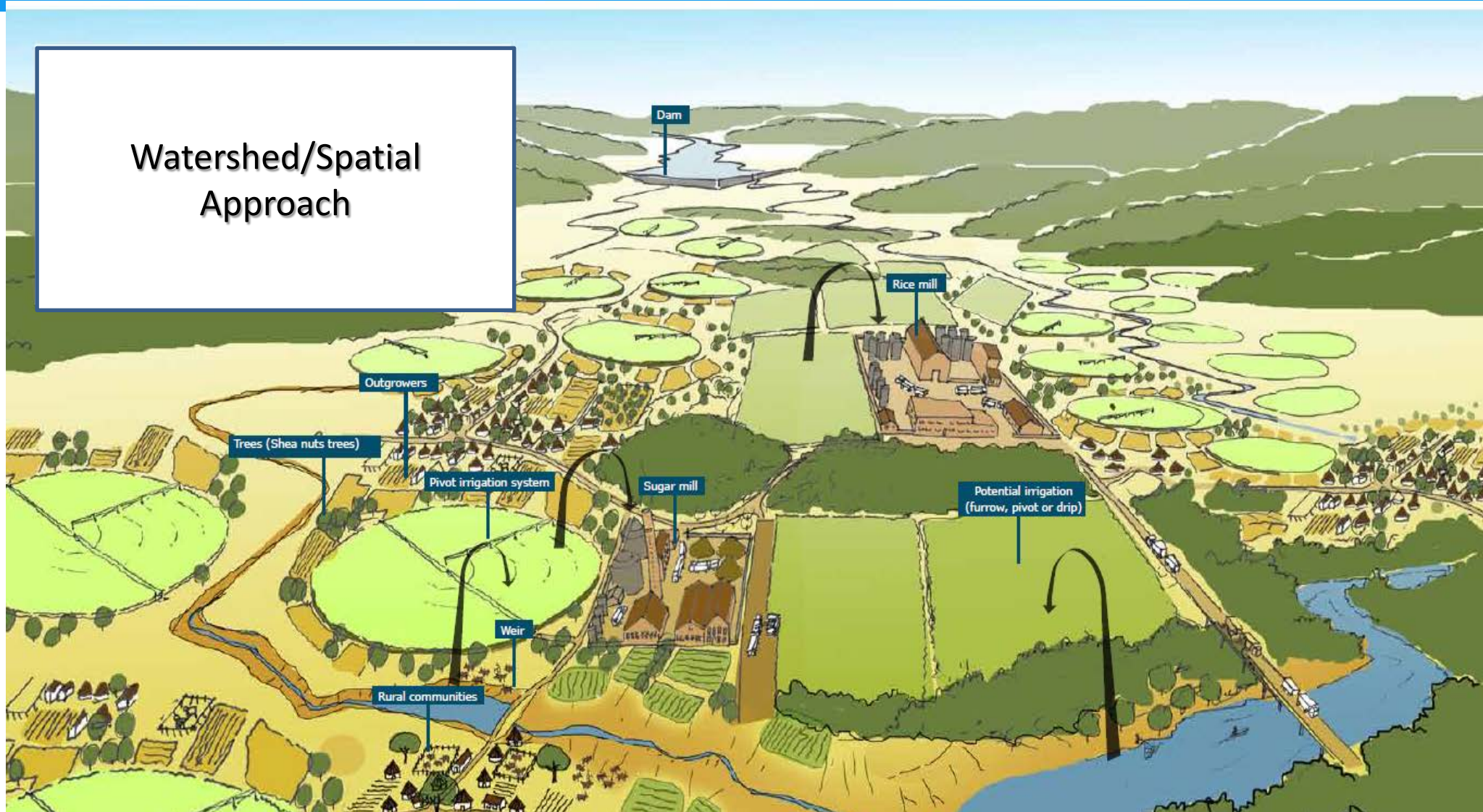
- Slow implementation of large public schemes or failure of some of the PPP schemes has been in most cases due to the limited capacity of the Government institutions (or contracting authority) to structure a good project and/or supervise the Constructor/Operators.

Lesson 3: Phasing of irrigation investments and agricultural support requires careful attention

- To improve the effectiveness of downstream development and agricultural commercialization investments, both water flowing through the canals and improved on-farm irrigation systems must be guaranteed.
- Improvements in agricultural commercialization before irrigation is operational has not worked out.

Lesson 4: Holistic understanding of components of environment and how they are valued by inhabitants and users critical to effectively manage opportunities and risks associated with greenfield projects

Watershed/Spatial Approach



Thank you!



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