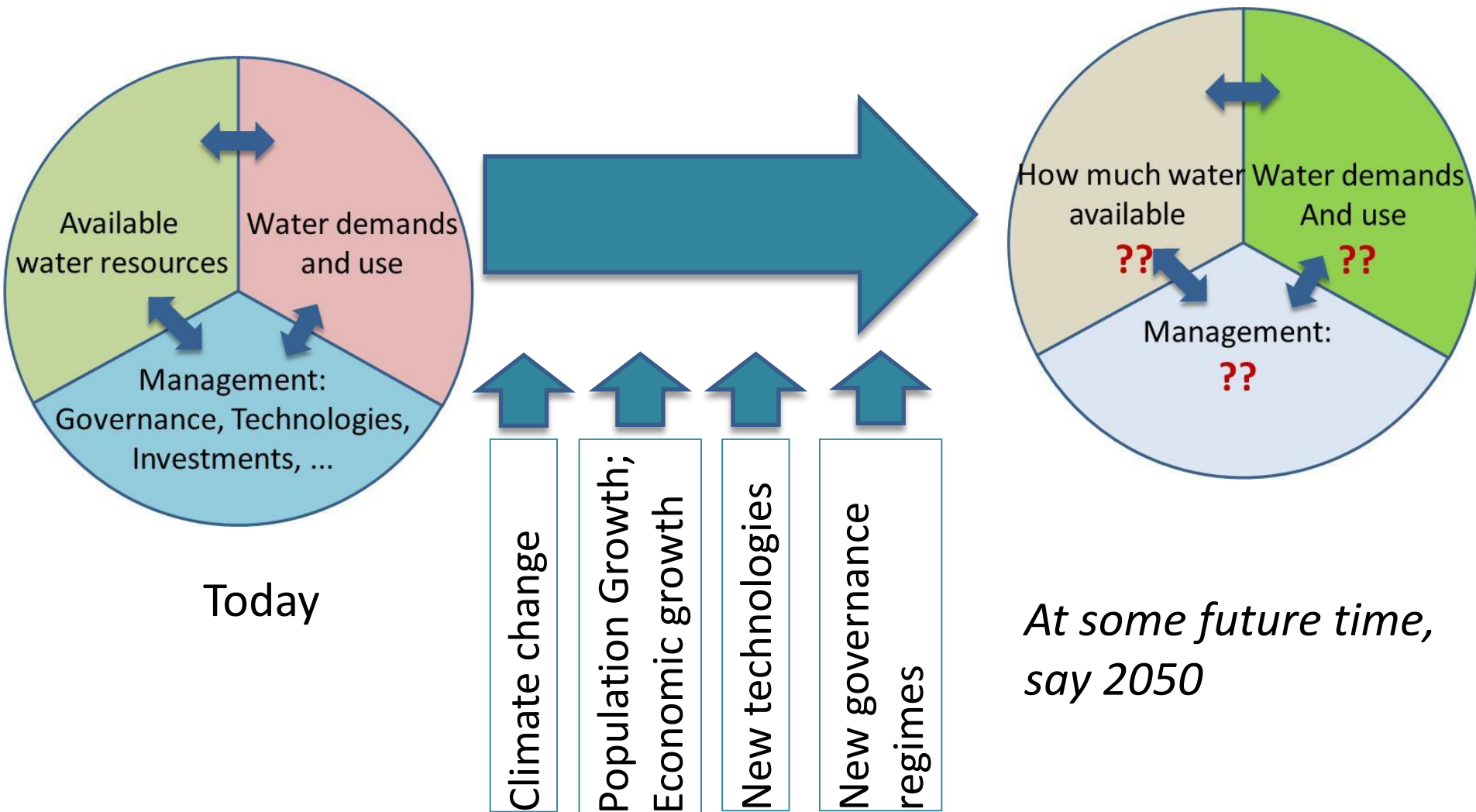


Efficiency, Sufficiency, Sustainability: allocation in river basins

Reconciling current and future water demands in a highly stressed river basin

Nile Basin Initiative Experience

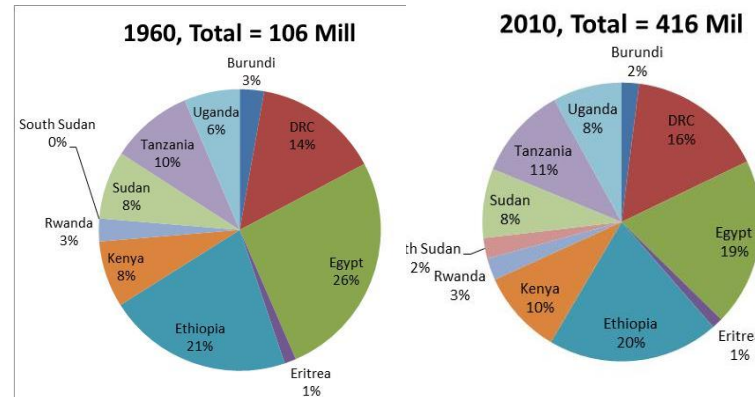
The water management challenge



→ Technical solution to water management challenges under enabling legal, policy and institutional frameworks

Addressing water management challenges in Nile Basin

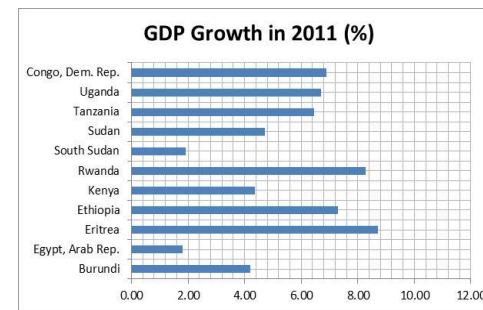
- 11 countries with total population over 415 Million → doubling every 20 – 25 years so far; projected to reach 1 BN by 2050



2030

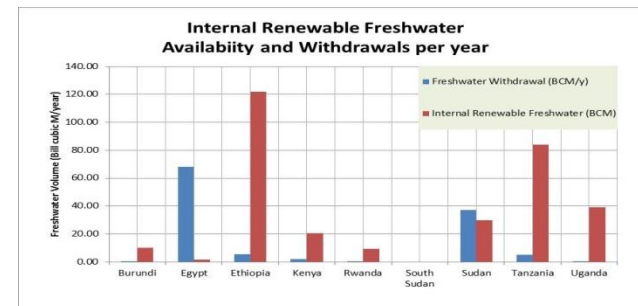
(?)

- Fast growing economies → rapidly growing demands for energy, water



(?)

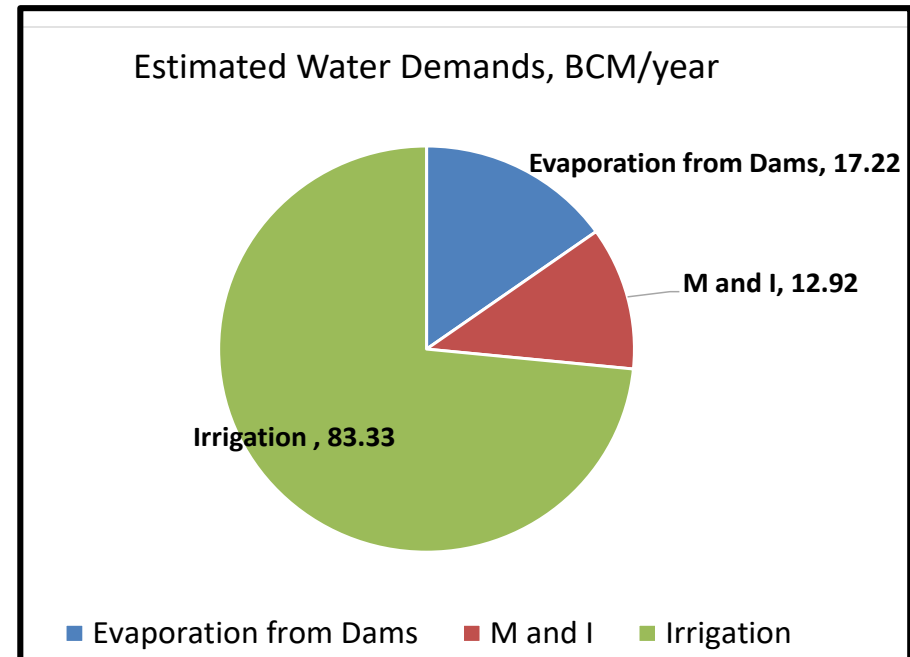
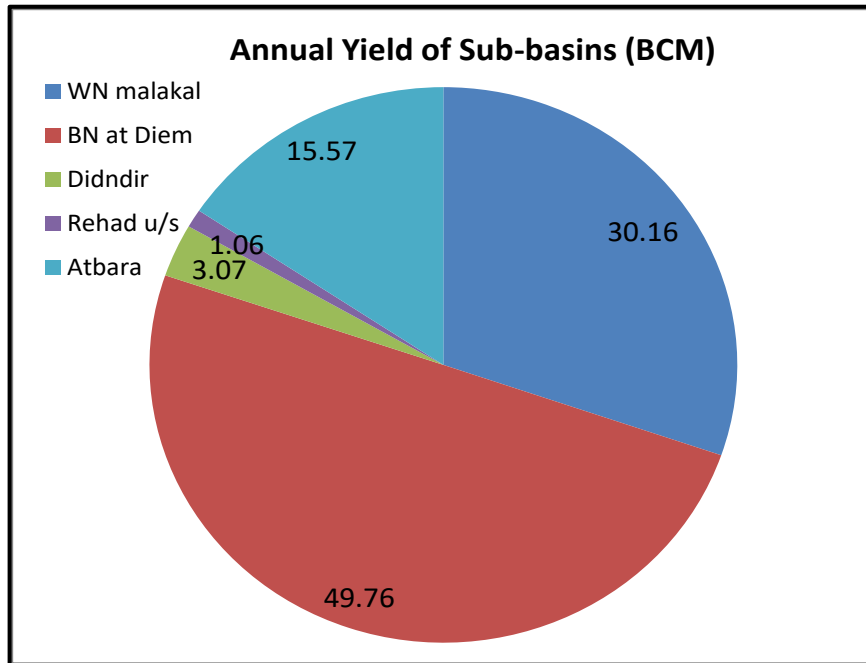
- Shared river basin with scarce, finite water resources facing climatic uncertainty



(?)

→ Technical solution to water management challenges under enabling legal, policy and institutional frameworks

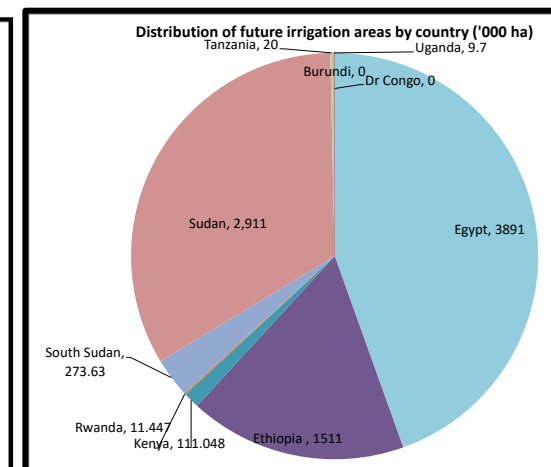
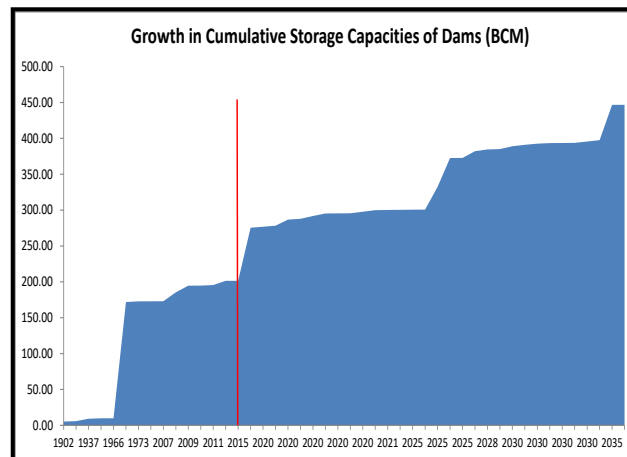
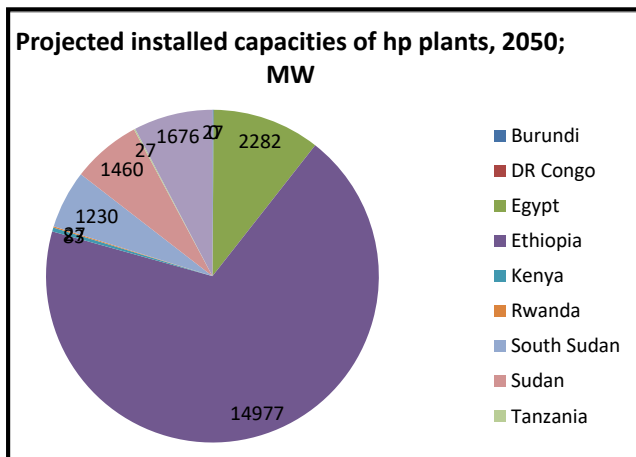
Current water availability and demand



- The Nile currently supplies water for approx. 5.4 Mill ha of irrigated land basin wide in diverse hydro-climatic zones.
- Estimated total irrigation water demand basin-wide is approximately 83 BCM/yr;
- Ambitious plans of countries → the demand is expected to increase substantially
- Basin managed largely through individual country efforts

Projections

- Total basin dam storage capacity is expected to rise from the current 200 BCM to > 400 BCM;
- Hydropower capacity to increase from 5600 MW to > 26,000 MW
- Irrigated area is expected to increase from the current 5.4 Mill. ha to about 9.4 Million by ca. 2050;
- **Governance regime: more effective cooperation → basin waer challenges addressed mainly through cooperation (?)**



Future scenarios

Level of WR Infrastructure Expansion (Irr, Hp, Dams)

All identified projects (full development; the reference)

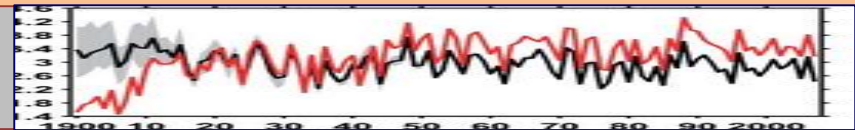
75 % of identified projects

50 % of identified projects

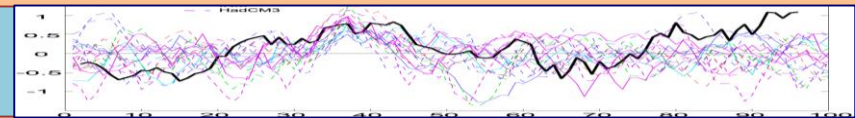
25 % of identified projects

Climate

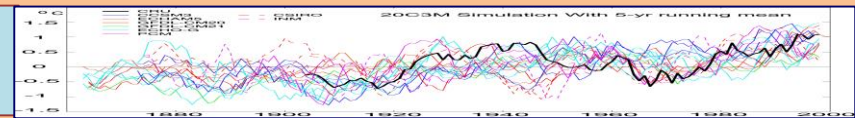
CC – Dry



Historical



CC - Wet



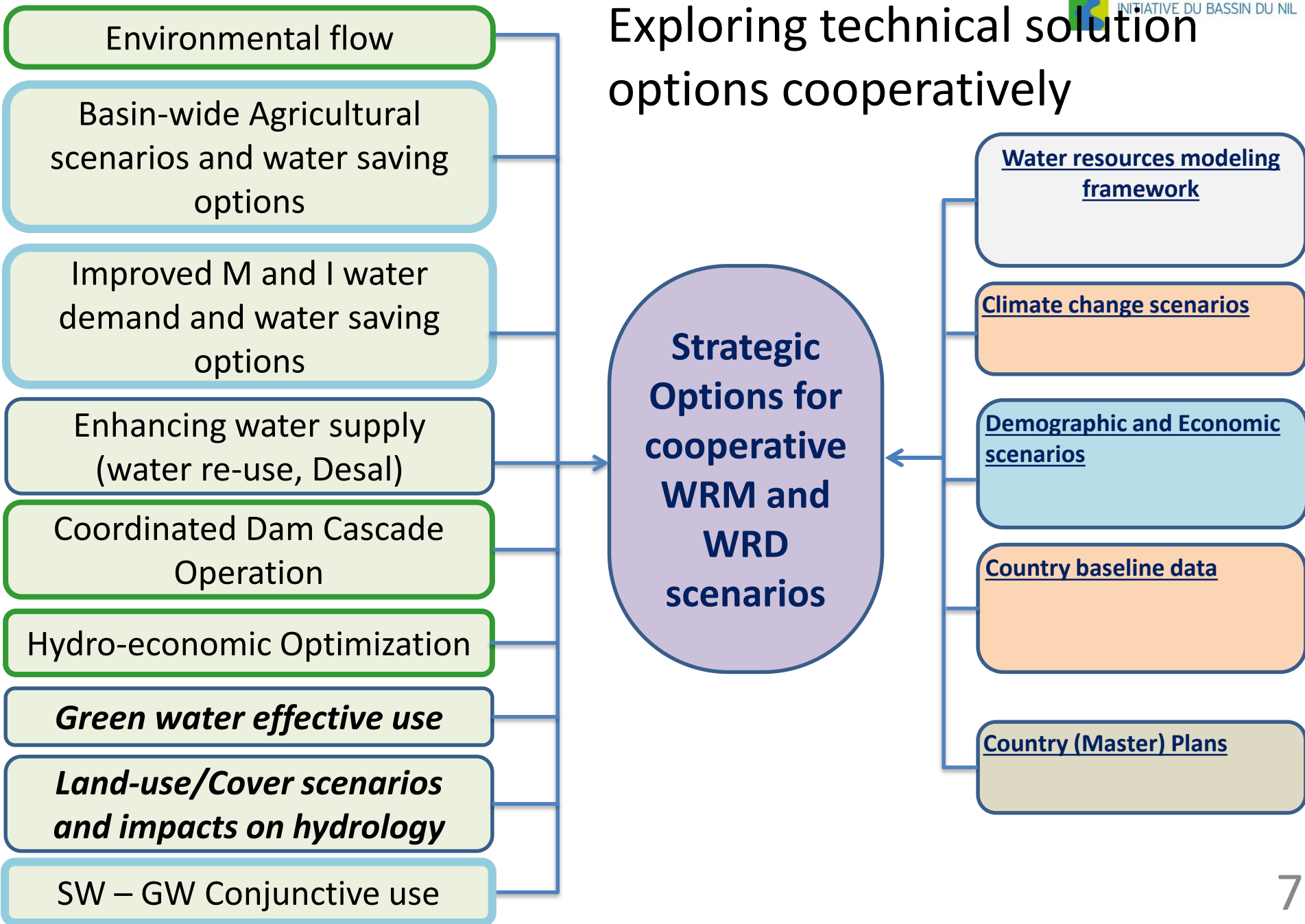
Improvements in irrigation efficiency

Current level

50 % improvement for new dev.

Up to 50 % Improvements for all

Exploring technical solution options cooperatively



Summary

- Planned water resources developments are needed and expected to yield substantial benefits to the basin countries;
- However, if future water resources investments are **not coordinated and optimized basin-wide**, there are risks of incurring substantial shortfalls; *the deficit is likely to grow to over 50 percent of historically available water supply*
- Climate change scenarios analyzed indicate greater need for adaptive management to reduce vulnerability;
- A number of **options** have been **identified** by member countries for addressing the growing imbalance between supply and demand;

... conclusion

Projected Aggregate water demand could reach ca. 150 - 160 percent of current availability.

If measures are not taken to manage the imbalance, there is risk that total water demand can outstrip available resources soon;

Member countries working together to explore various options to address the growing water demands more sustainably.