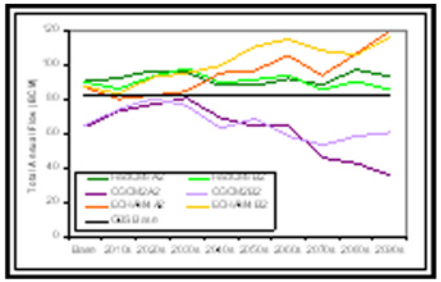
# "Climate Change Risk Management Project"
## Forecasting & IWRM Component

### Forecasting and Integrated Water Resources Management Component

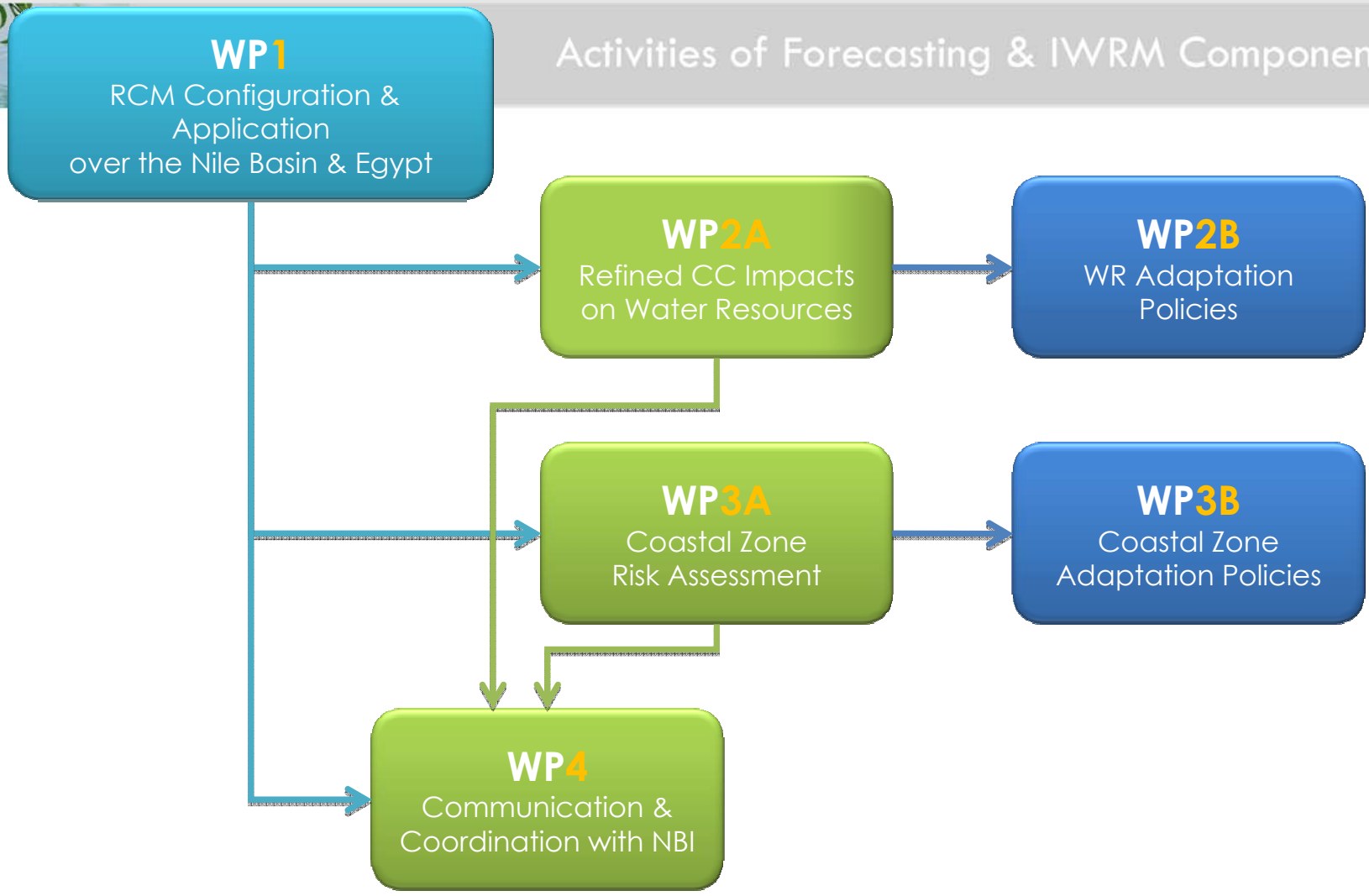
The Nile River provides Egypt with more than 95% of its renewable freshwater resources. Because the Nile originates outside Egypt international borders, the country is affected by changes occurring in the upstream catchments. Egypt relies on the Nile water stored at Lake Nasser upstream the Aswan High Dam to satisfy its different water requirements of the various economic sectors. Egypt's annual share of water (55.5 billion cubic meters, BCM) has been determined based on an average annual yield of the river at Aswan of 84 BCM, while Sudan's share is set at 18 BCM. Other sources of water are not reliable nor sustainable. Water is used in the countries for irrigation, domestic and industrial purposes. It is expected that climate change would have significant impacts on water availability as well as water requirements.

### Climate Change Impacts on Water Resources

- Temperature and rainfall patterns allover the world are expected to change significantly within this century affecting river flows and evaporation/evapo-transpiration.
- Rainfall over the Nile Basin is extremely variable and uncertain. Previous models used to forecast river flow for the long-term had demonstrated inconsistent results showing changes of ± 30% of the current annual flows.
- Meanwhile, rainfall over the northern coasts of Egypt, along the Mediterranean is expected to be reduced.




### Climate Change impacts on the Coastal Zone

- The expected sea level rise would result in inundation of urban, industrial and agricultural land with significant socio-economic consequences
- Higher sea level will also hinder drainage of excessive irrigation water in the Nile Delta.
- Salt-water intrusion may affect fresh water resources and in turn may have a serious impact on agricultural productivity and coastal ecosystems

# Activities of Forecasting & IWRM Component