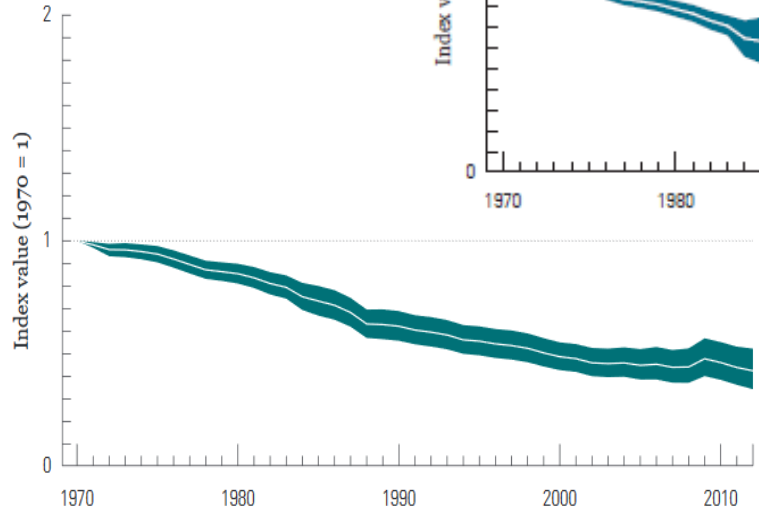
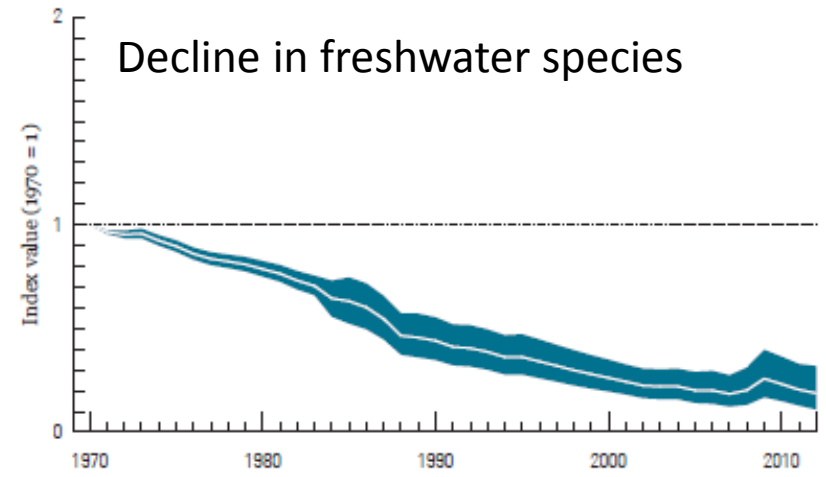
A person is seen fishing from a rocky bank in a misty river. The water is turbulent and white with foam, suggesting rapids or a dam. The scene is atmospheric and somewhat desaturated, with a blue-green tint.

**Sustainable energy and
healthy rivers requires best
practices at both system
and project scales**

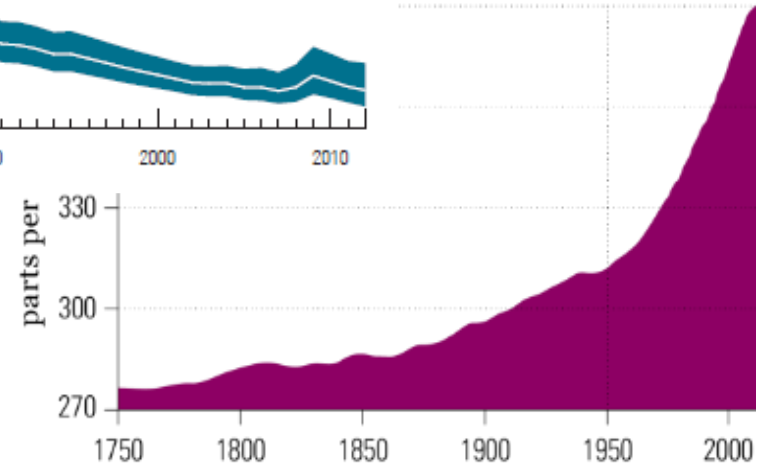
Ingrid Lomelde, WWF-Norway | September 5, 2017



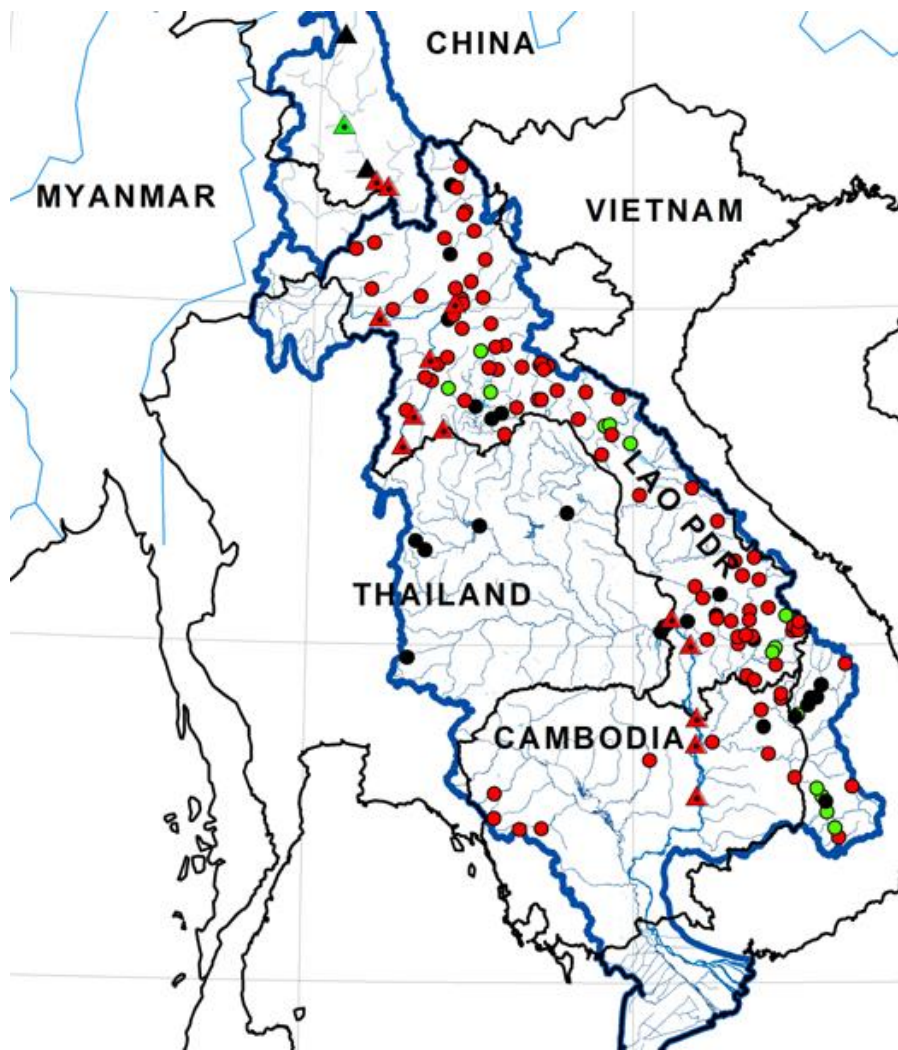
Decline in freshwater species



Decline in global species populations

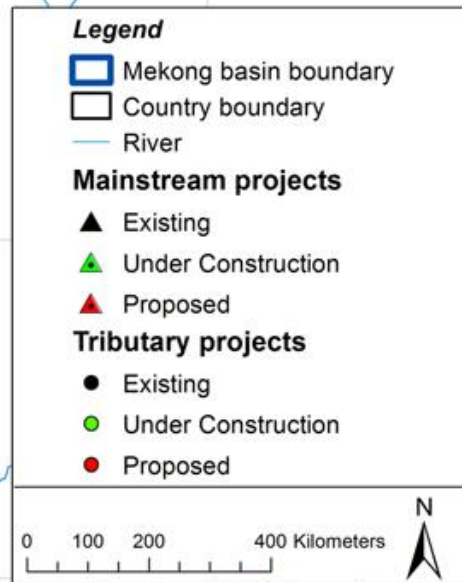


Increase in GHG-emissions



Mekong River Basin

Red dots = planned dams

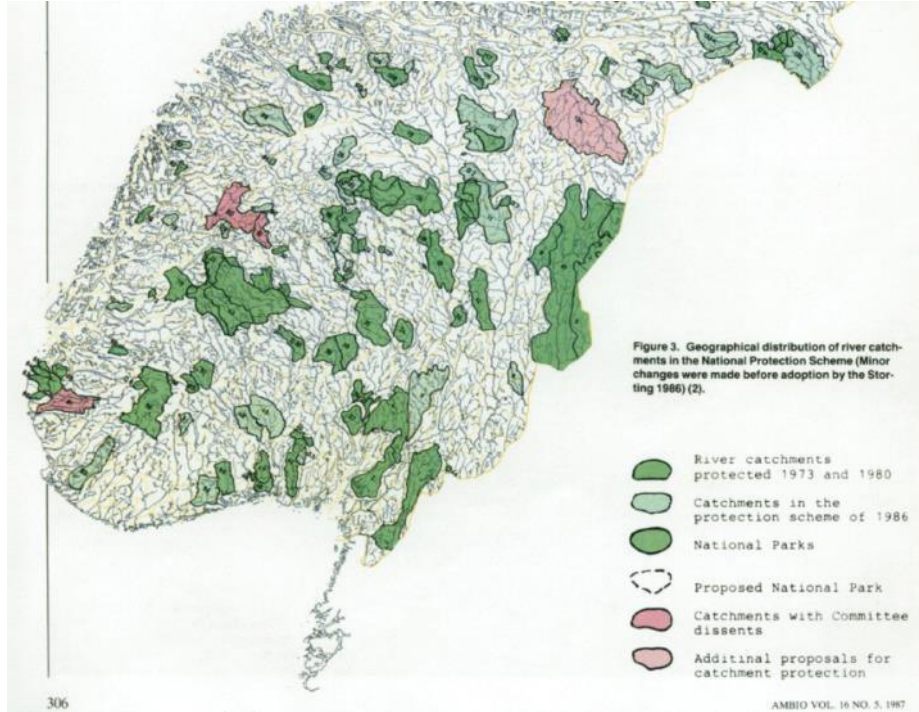


Project-scale best practices

- Project-scale safeguards applied within a system approach
- High quality Environmental Impact Assessment (made easier by system-scale information base and framework)
- Hydropower Sustainability Assessment Protocol as a screening tool



System scale: tools and examples



Norway's national plans for hydropower and river protection

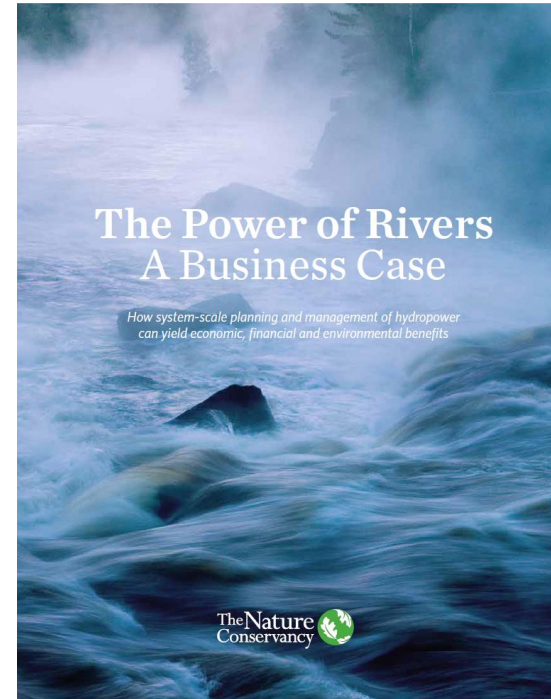
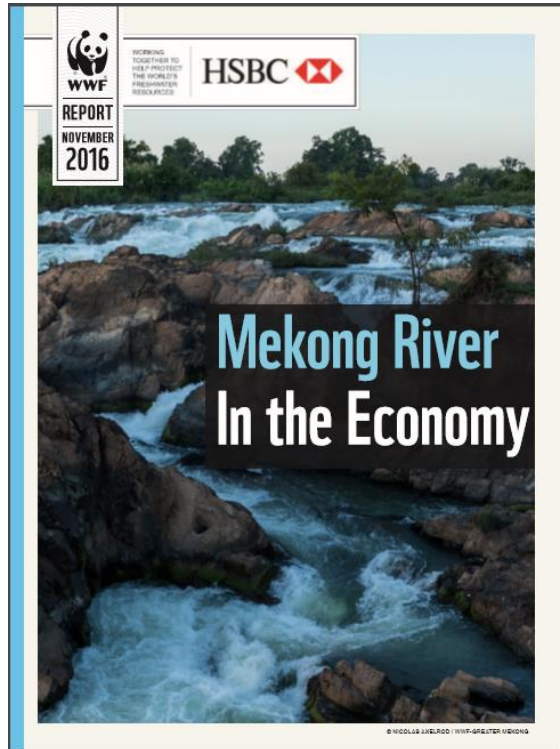


Rapid basin-wide hydropower
Sustainability Assessment Tool (RSAT)

But...we've been here before



The importance of expanding relevance to broader economic planning

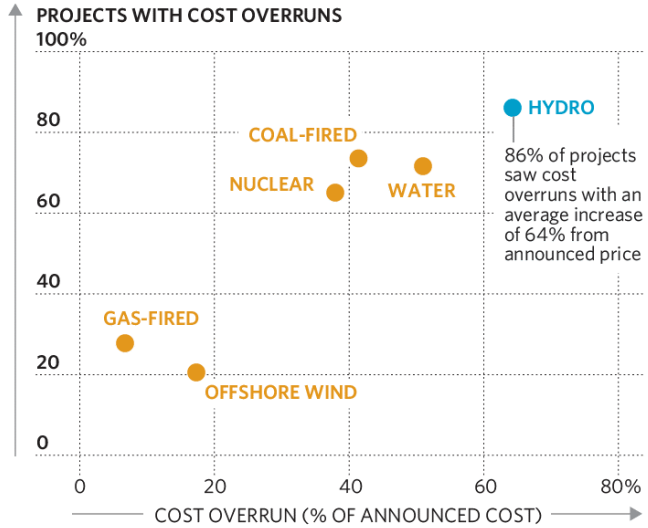
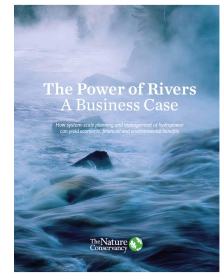


Environmental Benefits:

At the global scale, application of Hydropower by Design could reduce the amount of river length lost to fragmentation by approximately **100,000 kilometers** compared to business-as-usual approaches



Financial Benefits



Hydropower projects have greater cost overruns than other large infrastructure projects

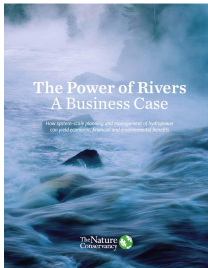
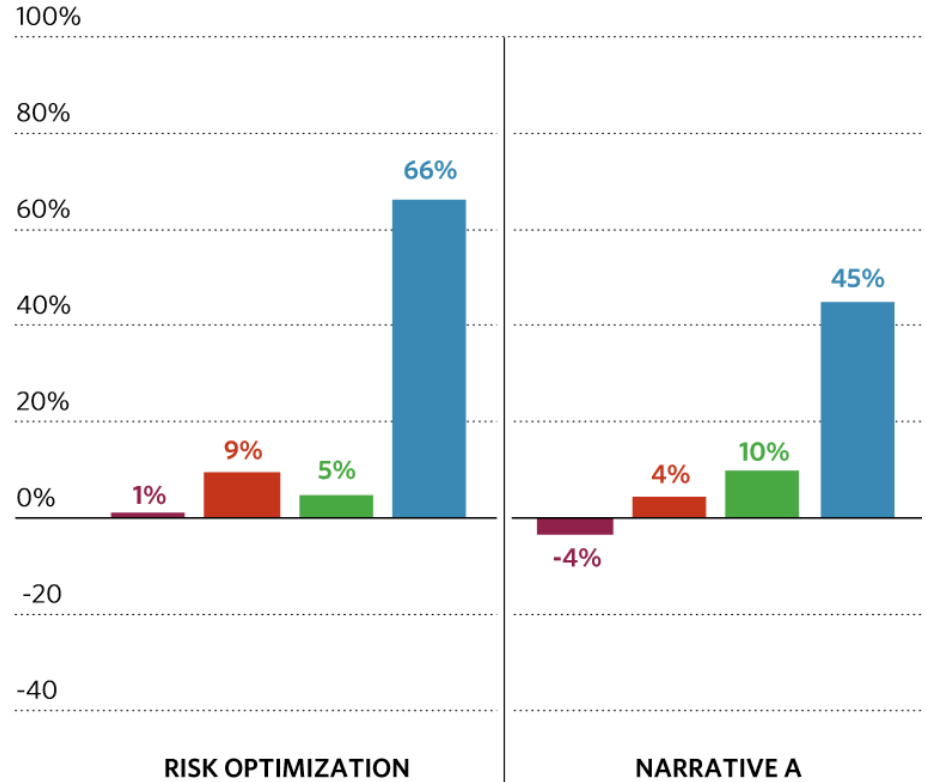


Financial Benefits

Projects selected through system planning had **higher Internal Rate of Return (IRR)**



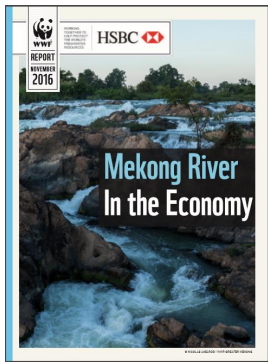
PERFORMANCE RELATIVE TO BAU



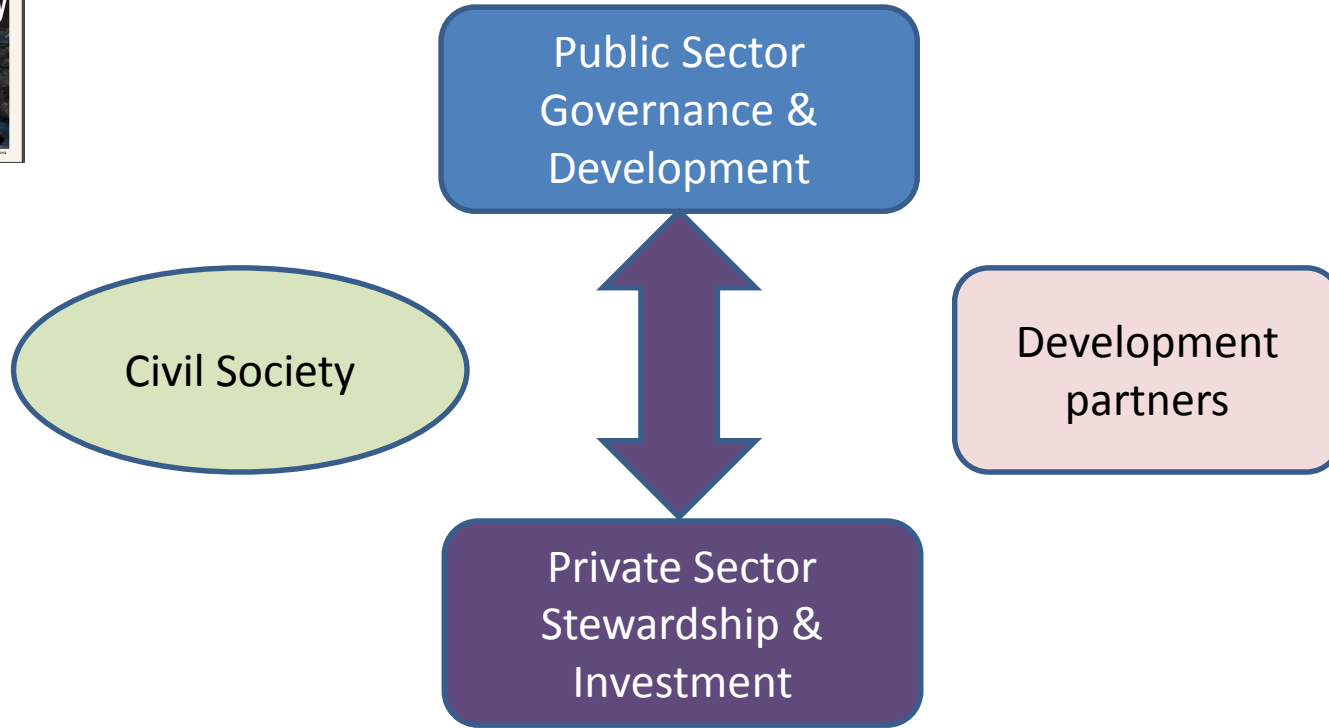
Economic Benefits

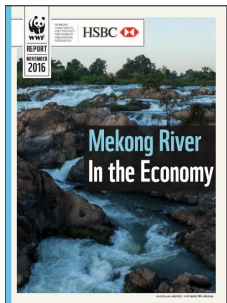


- Six case studies included another water-management service (irrigation, flood management, water supply)
- All showed potential improvement in other service, ranging from 10 – 50%
- Average improvement: 23%
- Median improvement: 18%



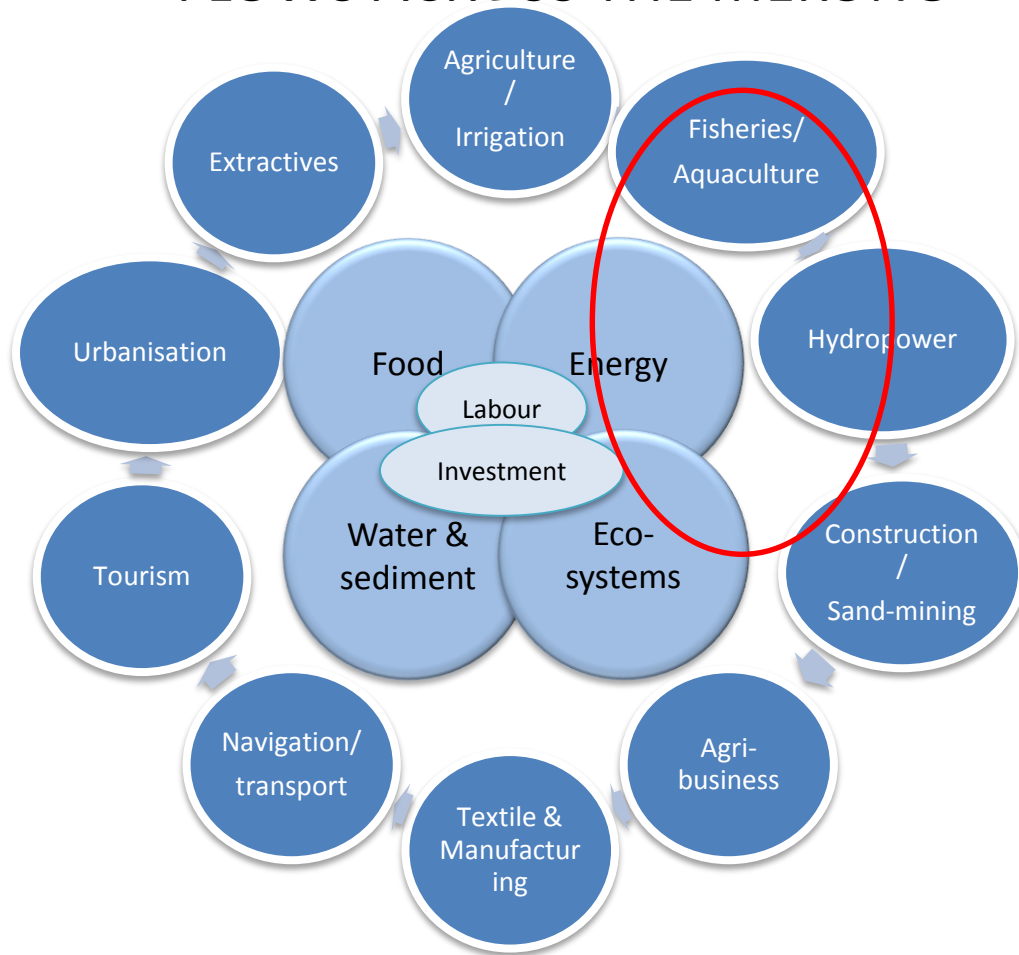
MRitE FOCUS





FLOWS ACROSS THE MEKONG

Drivers and Change



Decision-making in the Mekong

A Story of Fragmentation



Geographic fragmentation

- Country borders vs. River functions



Thematic fragmentation

- Sectoral development impacts



Temporal fragmentation

- Long, medium and short term impacts

Improved integration is required across the Mekong Basin



THANK YOU!

+100

Present in 100
countries and on
5 continents

1961

Founded in 1961



+5,000

More than 500 employees
worldwide

+5M

Over 5 million
supporters