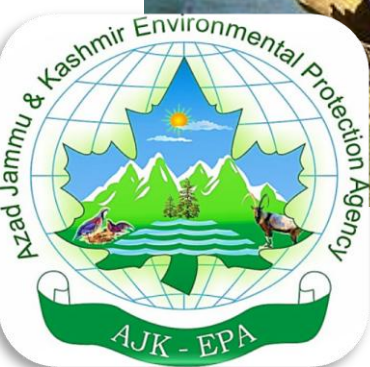


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# SEA, Climate Change & Hydropower for Sustainability

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# Scheme of Presentation

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# NIAP-the Programme

□ National Impact Assessment Programme (NIAP) aims at:

□ **Strengthening** Environmental Impact Assessment (EIA)

✓ **Introducing** Strategic Environmental **Assessment**(SEA)

➤ Funded by Embassy of the Kingdom Netherlands

➤ Implementers:

➤ Planning Commission

➤ M/o Climate Change

➤ Pak EPA

➤ Provincial, AJK, GB EPAs/P&D Departments

➤ IUCN Pakistan

➤ NCEA

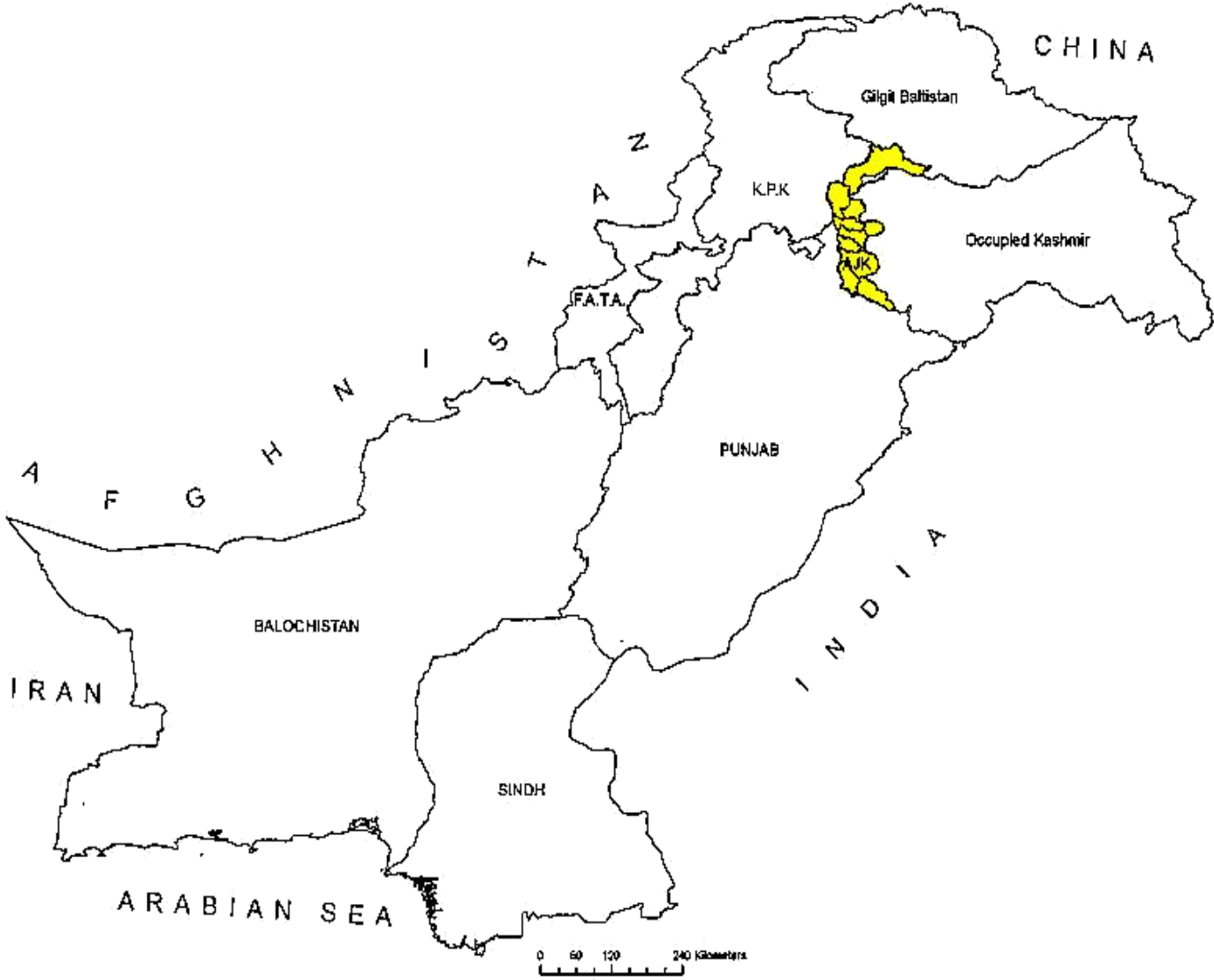


# NIAP & SEA Pilot

- SEA is being introduced through capacity building, awareness, regional and international interaction
- One task is to carry out **two pilots** to better understand the subject, its requirements and local example to convince policy and decision makers before it is made a legal requirement.
- A **Task Force** is set-up in Planning Commission
- **One of the pilot studies to be carried out is selected in AJK i.e. Hydropower Development Plan**
- AJK Govt has established a **Steering Committee to oversee** implementation of the SEA pilot



# AJK Location

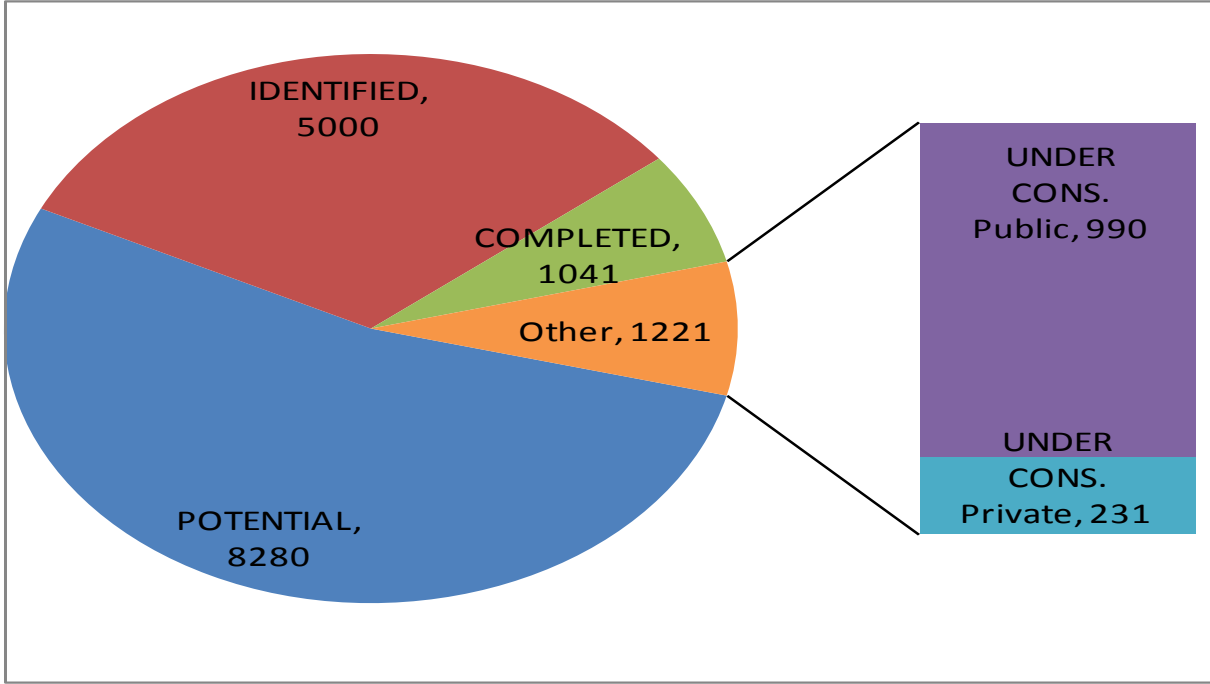


# Pilot Area

- ➡ AJ&K 5134 sq miles; 4 million population
- ➡ Fragile watershed—sustained water yield - power and agriculture
- ➡ Natural Resources: Mountains, forests, glaciers and several perennial rivers and streams.
- ➡ Excellent opportunity for showcasing action plans -water, food and energy securities of Pakistan
- ➡ Possesses a tremendous potential for hydropower production.
- ➡ Run- of- river hydropower generation meet energy requirement, halting watershed degradation, CDM

# Hydroelectric Power Potential (MW)

	Potential	Identified	Completed	Under Cons Public	Under Cons Private
<b>J&amp;K</b>	<b>20000</b>	<b>16480</b>	<b>390</b>	<b>1198</b>	
<b>AJ&amp;K</b>	<b>8280</b>	<b>5000</b>	<b>1041</b>	<b>990</b>	<b>231</b>



# HP Development Goals

S.#	Year	Planned Installed Capacity (MW)	Development Milestones		
			Goal	Cost ( M.US\$)	Expected annual returns (M.US\$)
1	2010	55.00	Short-term	100.00	17.00
2	2015	664.00	Med-term	1200.00	180.00
3	2020	1300.00	Long-term	2600.00	240.00
4	2025	4000.00	Long-term	7500.00	450.00

# Climate Change & Pakistan

- ➡ Low GHG emitter-severely impacted TOP 10
- ➡ Glacier melt, floods, droughts
- ➡ Pakistan socio-economic fragility – most vulnerable to environmental, social and economic ramifications of CC
- ➡ Freshwater availability projected to decrease lead to biodiversity loss; reduce availability for the population
- ➡ Increased sea level rise
- ➡ decreased crop yields
- ➡ Lack of resources and capabilities to adapt to the changes will worsen the situation

# Climate Change Challenges

Most serious challenges /threats to its **Water, Food and Energy Securities**, owing

- Increased frequency and severity of extreme events
- Increased sediment flow due to high intensity rains
- Drastic shifted weather pattern, temporal and spatial
- Reduced productivity of agricultural crops
- Increase in deforestation, land erosion and soil degradation
- Low adaptive capacity to adverse climate change impacts

# Objectives of SEA Pilot

- ➡ Assess potential environmental & social risks
- ➡ Assess potential environmental & social benefits
- ➡ Alternative plan options for Sustainability
- ➡ Develop understanding of current state of hydropower planning
- ➡ Assess the institutional and policy constraints, and recommend ways to mainstream environmental and social considerations

# Environmental Integration

- Environmental integration in development planning is considered essential for **Sustainable Development**
- EIA is useful for environmental integration at the project level (mandatory and is being complied, with limitations)
- **SEA is neither being practiced nor it is legally binding.**
- **Environmental Integration through EIA**
  - ✘ **Quantity/Number: Encouraging**
  - ✘ **Quality: Average to poor**
  - ✘ **Implementation: Weak**
  - ✘ **Awareness & Capacity: Weak**
  - ✘ **Coordination mechanism: Weak**

# Sustainable development Pre-requisites

Indicator	Quantity	Quality	Legal Support	Implementation
Policy	7	6	2	4
Plan	7	5	2	4
Program	5	5	2	5
Projects	8	7	7	6
Institutions	5	5	4	5
Human Res	5	7	5	6

(Rated 1-10, poor to strong)

Capacity/coordination /awareness Vital element for sustainable development - are weak to average.

# Promoting SEA

- ❑ **First Approach:** Pilot SEA - expected success - improving the targeted policies/plans strategically- legalization of SEA be initiated/completed at the end
- ❑ This process for adoption is being furthered through facilitation of two pilot SEA studies; one of them is Hydropower Development Plan of AJK.

# Promoting SEA(Cont..)

- ❑ **Second Approach:** Incorporating provisions of SEA in the Environmental Protection Law(s) during formulation/revision
- ❑ Human resources/capacity and a conducive institutional mechanism for SEA will get improved/achieved over time through its implementation/practicing i.e. learning by doing
- ❑ Regional/developing countries lessons –good for Pakistan

# Discussion

- ❑ Priority to address the Challenge: Environmental Degradation cost to economy(> Rs 385 billion/Year)
- ❑ Adaptation Cost to CC impacts estimated \$6-14 billion year.
- ❑ Run-of- river hydropower generation helpful for meeting the energy requirement on sustained and environment friendly manner
- ❑ Helpful in halting forest and watershed degradation
- ❑ Opportunities additional financial resources-CDM
- ❑ Sustainable Development

# Discussion(Cont..)

- ❑ Environmental assessment mechanism and the environmental governance in Pakistan are gradually improving- but slow
- ❑ Planning process/mechanism is quite advance
- ❑ However, integration of environment in development planning is a challenge for environmentalist since the last two decades.
- ❑ Sustainable development- strong link with SEA

# Discussion (Cont..)

- Developed-developing countries practice SEA as legal requirement:
  - with relative ease where public awareness and demand, capacity, political and social will and commitment exist.
- In some Countries, the SEA is integrated into the Environment Law and is being pursued with the available capacity, institutions and awareness.
- Pilot SEA of hydropower will pave way for its legalization
- Incorporation of its suitable and flexible clauses during the on-going revision of environmental laws in the country will further boost its acceptability, efficacy; and
- Capacity development among relevant institutions.

# Conclusion

- ❑ Planning process (policy, plans and programs) should take the environmental issue into consideration from first point of planning process (five year development plans).
- ❑ Working Group be established, responsible for ensuring SEA process along with Climate Change parallel to the planning process.
- ❑ SEA steps must also involve public from the first draft of SEA report

# Conclusion (Cont..)

- ❑ EIA legalized since 1997 but environmental degradation continues- not considered a major factor of unsustainability among mainstream planners/decision makers
- ❑ So Just legal framework helps to limited extent
- ❑ Any one Approach may not be ideal though helps improve the culture for effective SEA implementation in an improved manner.
- ❑ Strengthening , understanding , acceptance/ownership
- ❑ Hence a combination of both approaches is most feasible option for Pakistan



Thanks