

IUCN Seminar

**IMPACT OF CLIMATE CHANGE
ON AGRICULTURE IN PUNJAB**

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE(*IPCC*)

Climate Change 2007

Synthesis Report(AR-4)

General Conclusion

“Warming of the climate system is unequivocal, as is now evident from observations of *increases in global average air and ocean temperatures, widespread melting of snow and ice*

Main Observations

Eleven of the last twelve years (1995-2006) rank among the twelve warmest years since 1850.

Temperature increase widespread, greater at higher northern latitudes.

Main Observations -*contd*

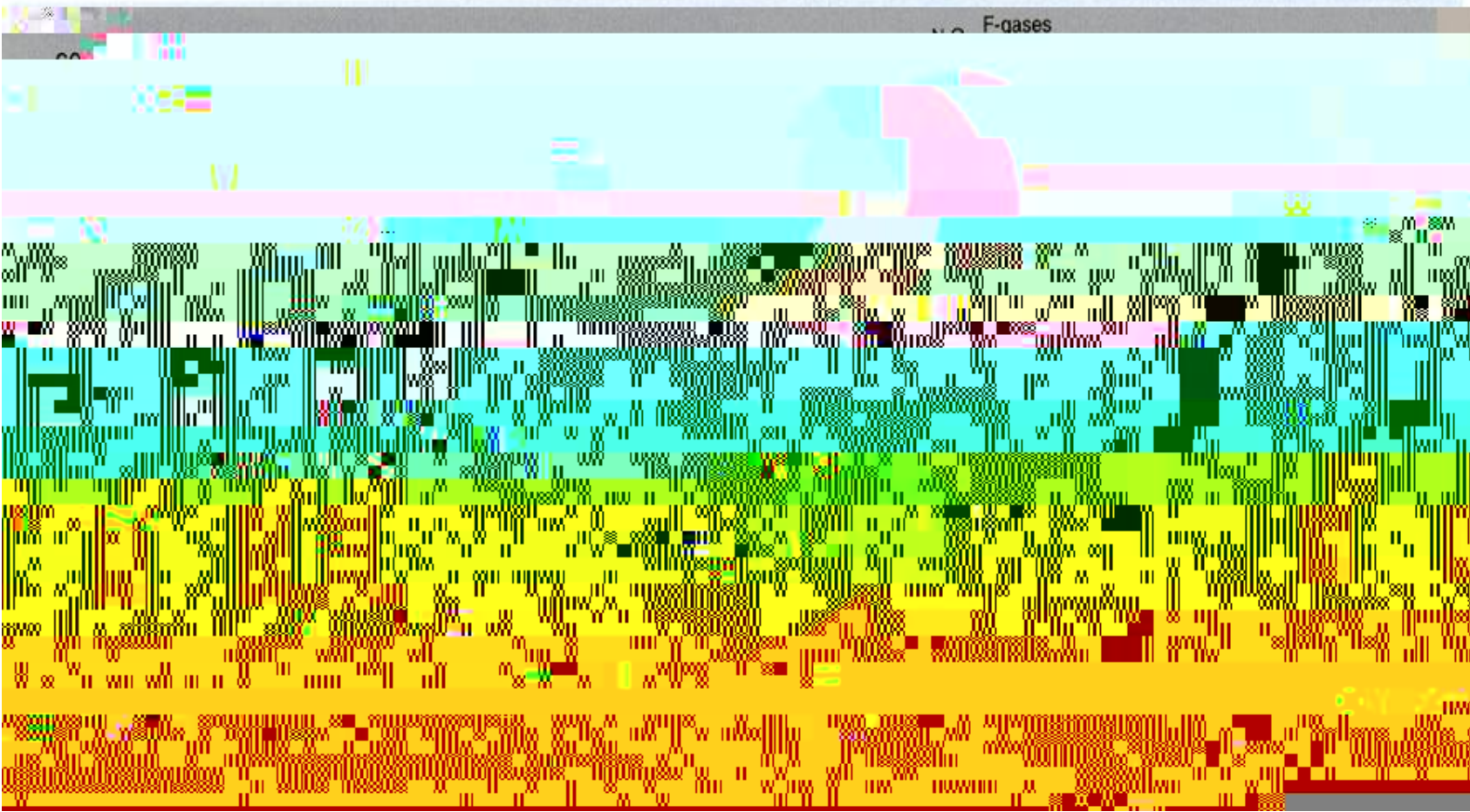
Cold days, cold nights and frosts have become less frequent over most land areas, while hot days and hot nights have become more frequent.

Heat waves have become more

Changes in temperature, sea level and Northern Hemisphere snow cover



Global anthropogenic GHG emissions



Impact of CC on Food Systems

Crop productivity projected to increase slightly at mid- to high latitudes for temperature increases of 1 to 3°C depending on the crop, and then decrease beyond

At lower latitudes, especially in seasonally dry and tropical regions, crop productivity is projected to decrease for even small local temperature increases (1 to 2°C), which would increase the risk of hunger.

Climate change and water

Climate change to exacerbate current stresses on water resources from population growth and economic & land-use change including urbanization.

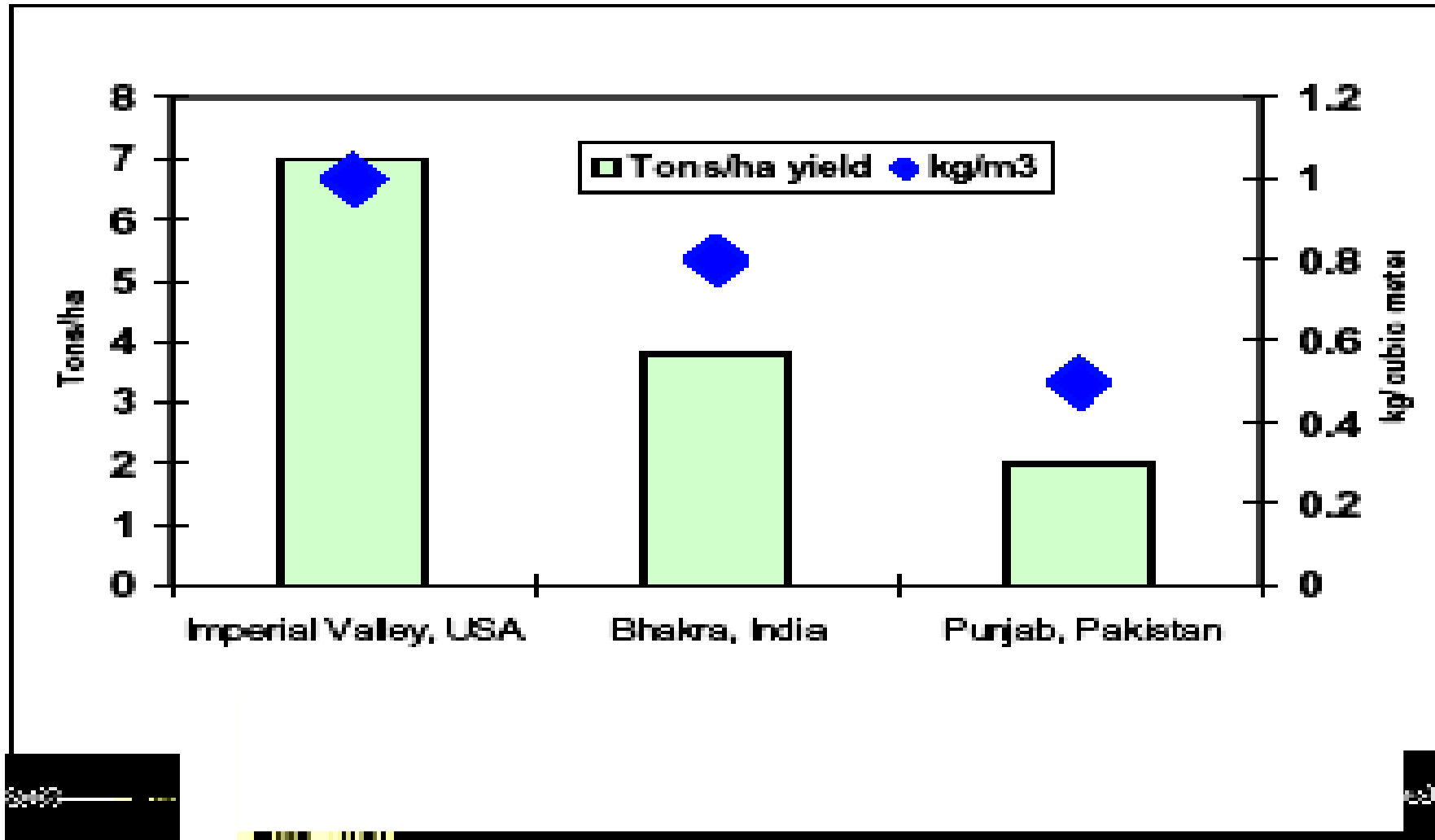
Widespread mass losses from glaciers and reductions in snow cover to accelerate throughout the 21st century, reducing water availability, hydropower potential, and changing seasonality of flows in regions supplied by melt water from Hindu-Kush, Himalayas,

Overwhelming Importance of Agriculture Sector in Pakistan Economy

WHEAT YIELD COMPARISON (2005)

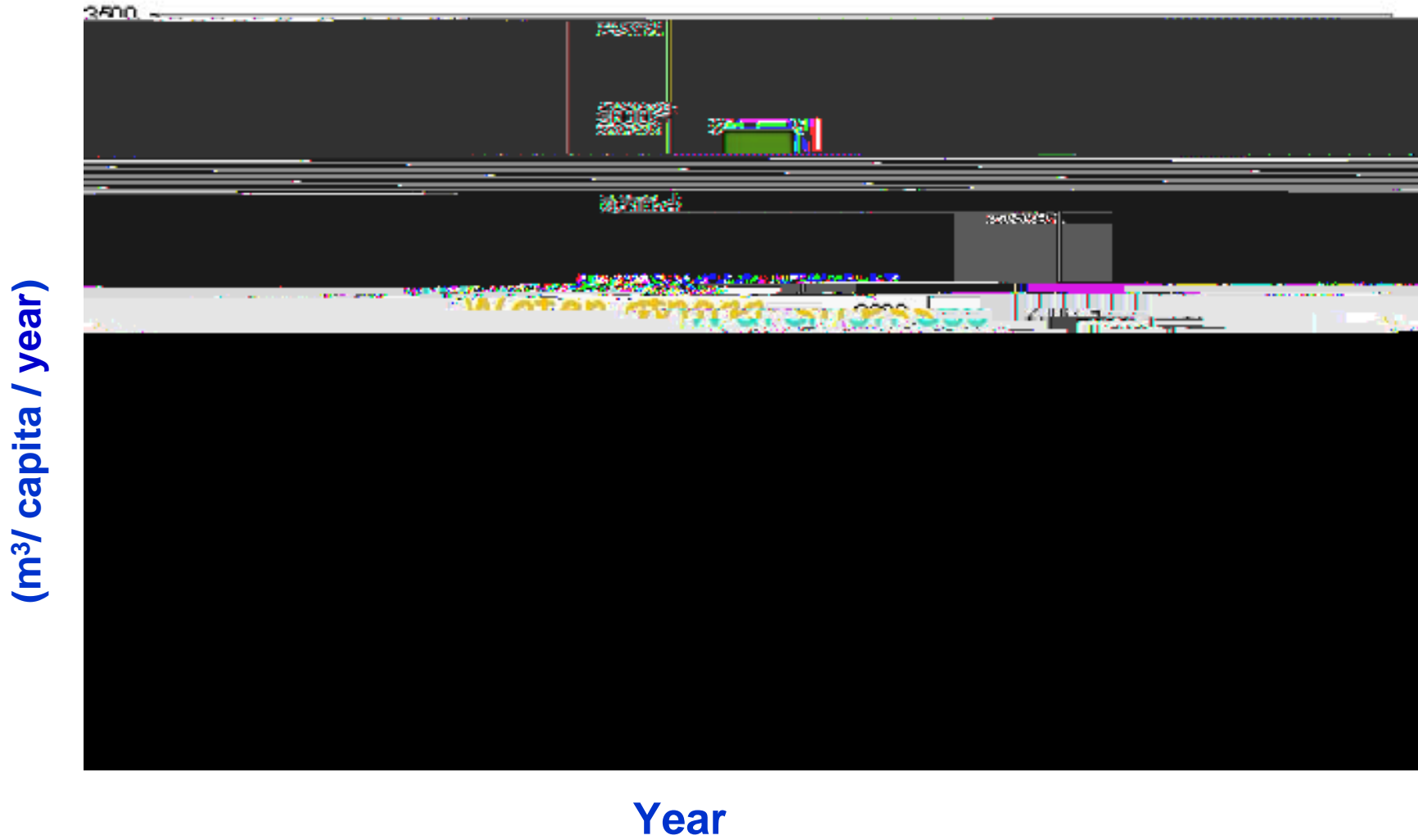
Country	Yield (t/ha)
UK	(7.99)
France	6.98
Egypt	6.45
Mexico	5.00
Punjab (India)	4.21*
Punjab (Pak)	2.72**

WHEAT YIELDS PER UNIT OF LAND AND WATER

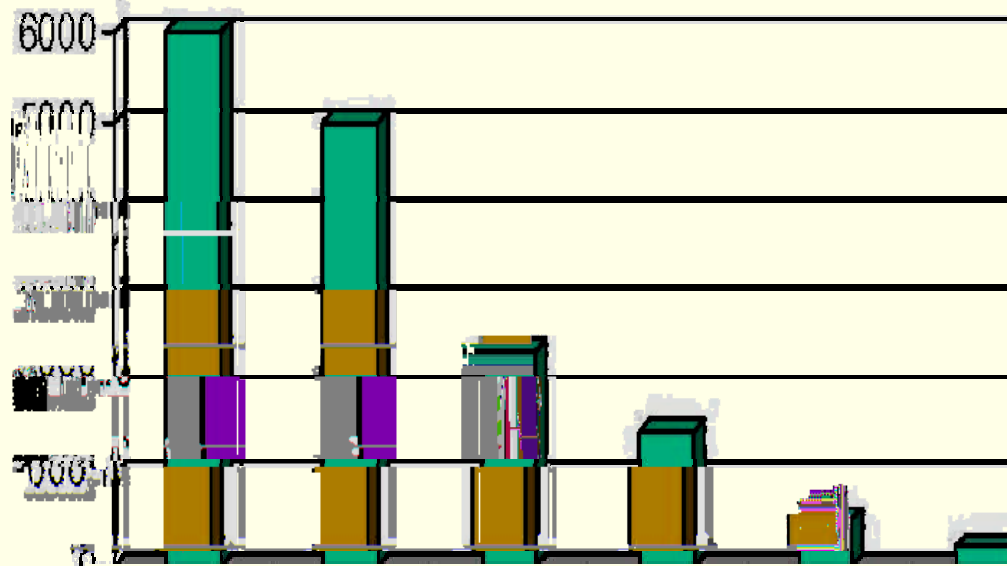


Source: *Pakistan's Water Economy: running dry* – report by THE WORLD BANK

DECLINING PER CAPITA AVAILABILITY OF WATER IN PAKISTAN



STORAGE IN SEMI-ARID COUNTRIES



Concluding observations

Performance of Punjab agriculture a determining factor in economic development and poverty alleviation of the whole country.

Climate already changing in the re

Concluding observations- *continued*