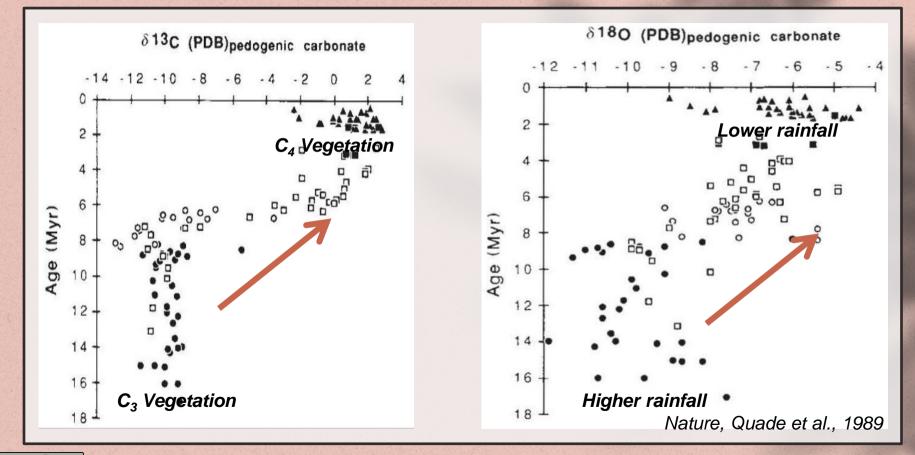
### Morpho-tectonic control on the distribution of C<sub>3</sub>-C<sub>4</sub> plants during Late Plio-Pleistocene in the central Himalayan Siwaliks <sup>#</sup>

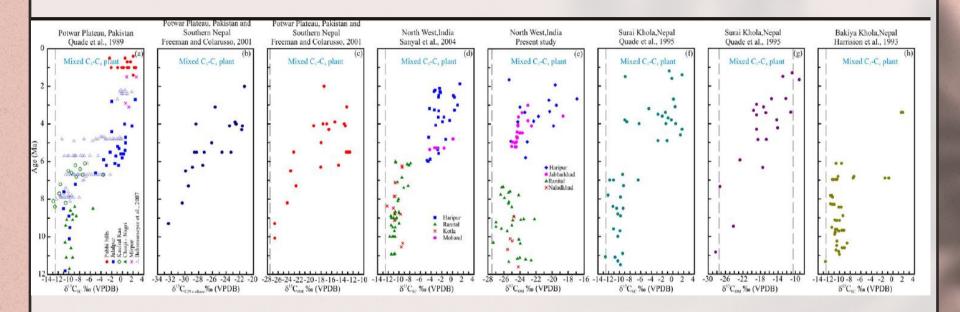
<u>Prasanta Sanyal</u><sup>^</sup>, Biswajit Roy<sup>\*</sup>, Sambit Ghosh IISER Kolkata, India <sup>^</sup>psanyal@iiserkol.ac.in \*biswajitgeo92@gmail.com



#### Marked ecological shift during the late Miocene



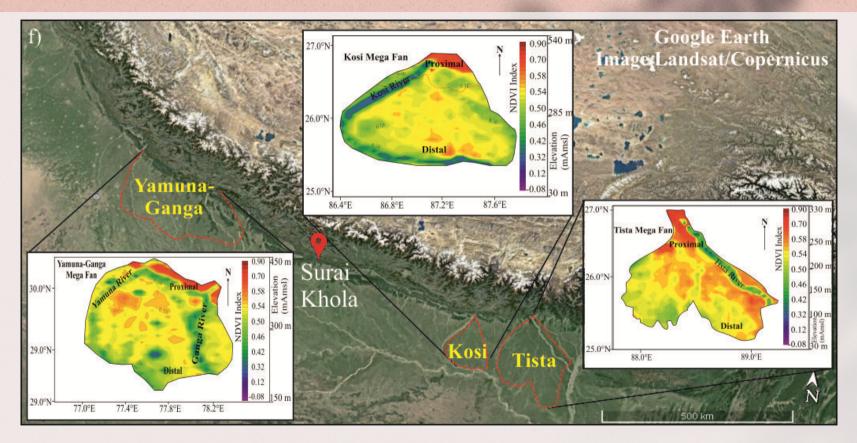
#### Marked ecological shift along HFB



Organic Geochemistry, Ghosh et al., 1989

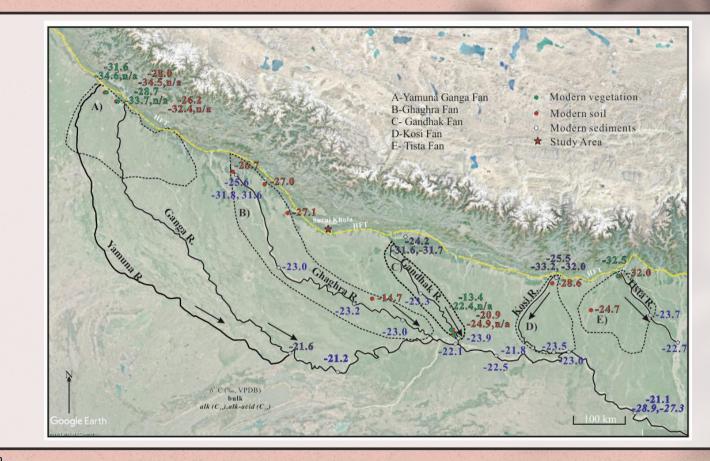


#### Modern alluvial fan along the Himalaya



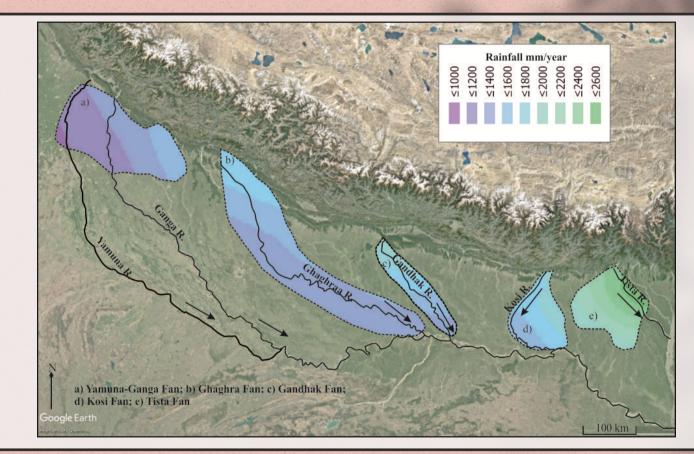


#### Carbon isotopic distribution across modern alluvial fans



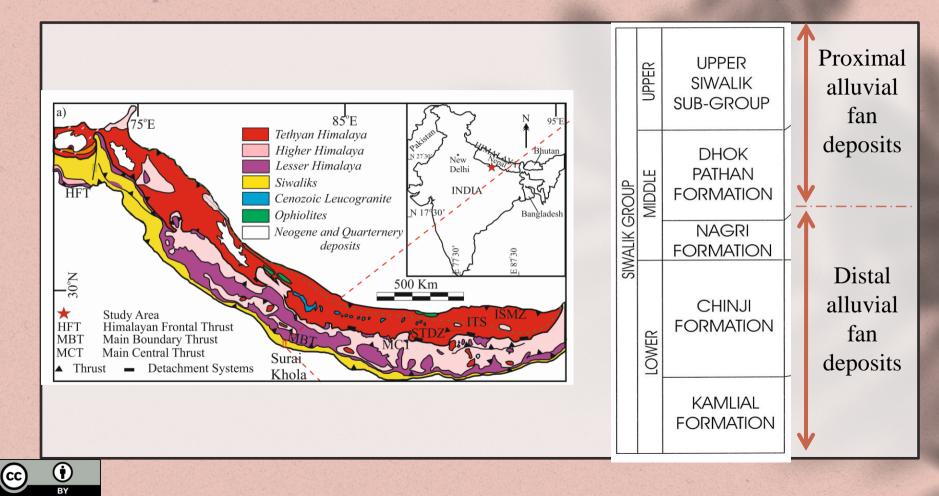


#### **Rainfall variation across modern alluvial fans**

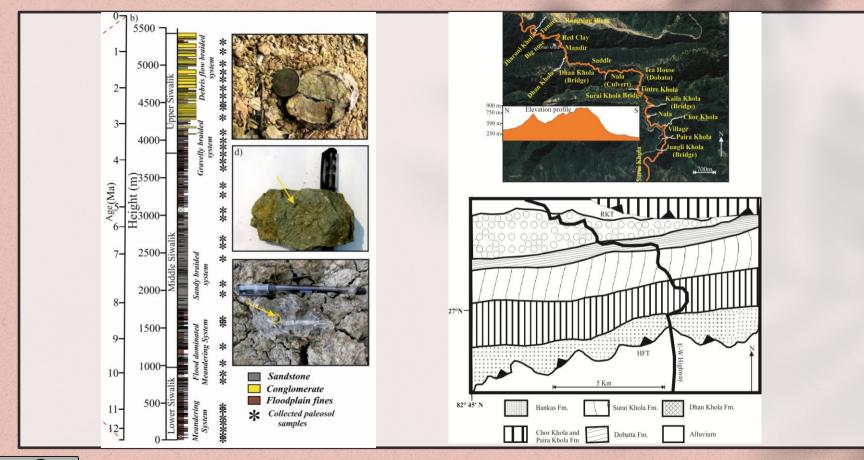




#### Siwalik deposits in HFB

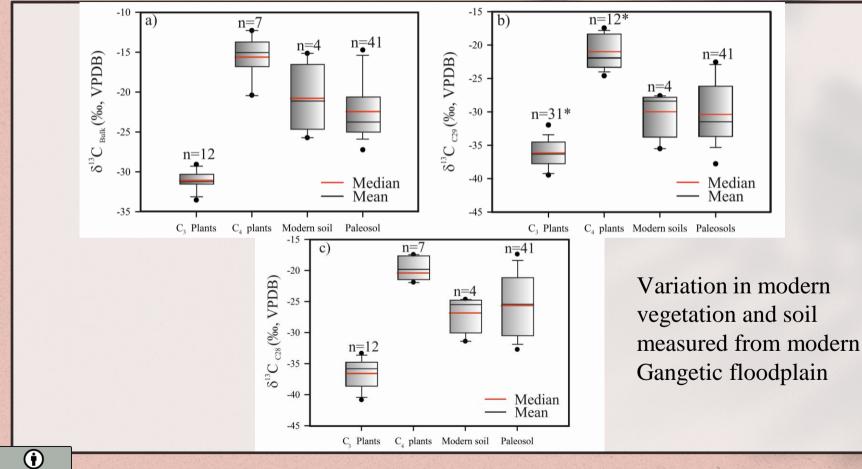


### Surai Khola Siwaliks



 $(\mathbf{\hat{e}})$ (cc) BY

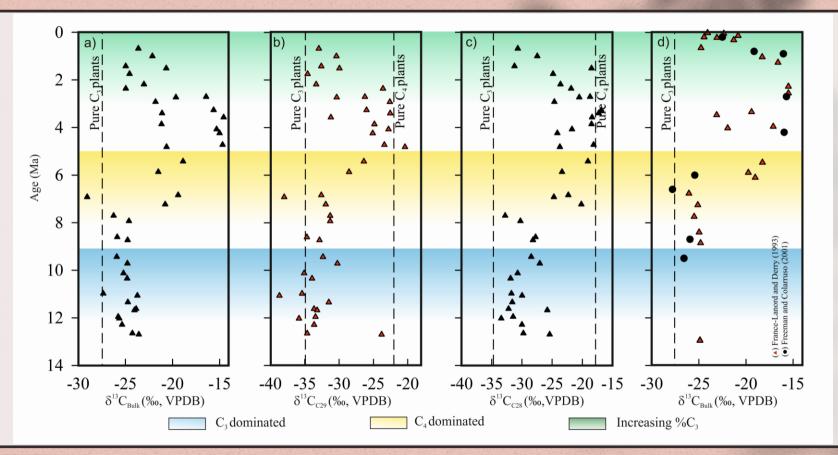
#### **Carbon isotopic distribution**



BY

(cc)

#### **Temporal variation in carbon isotopic composition**

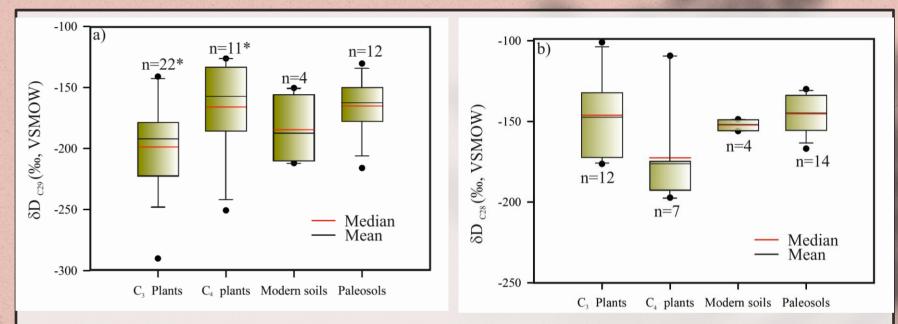


#### Hydrogen isotopic distribution

 $(\mathbf{\hat{I}})$ 

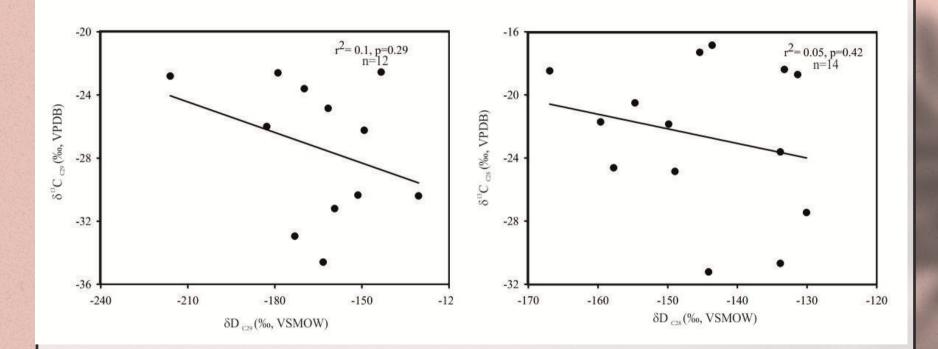
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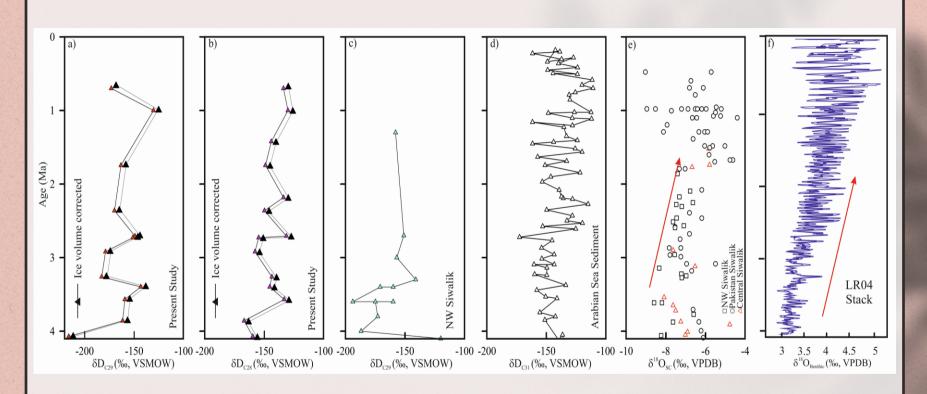
Variation in modern vegetation and soil measured from modern Gangetic floodplain

#### **Climate vegetation relationship (last 4 Myr)**

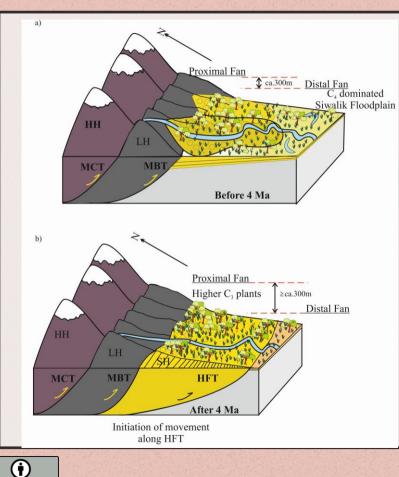




#### **Temporal variation in climatic proxies (last 4 Myr)**



#### Schematic model for last 4 Myr vegetation change



BY



## **Thank You** for more details please check the published article



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# Morpho-tectonic control on the distribution of $C_3$ - $C_4$ plants in the central Himalayan Siwaliks during Late Plio-Pleistocene



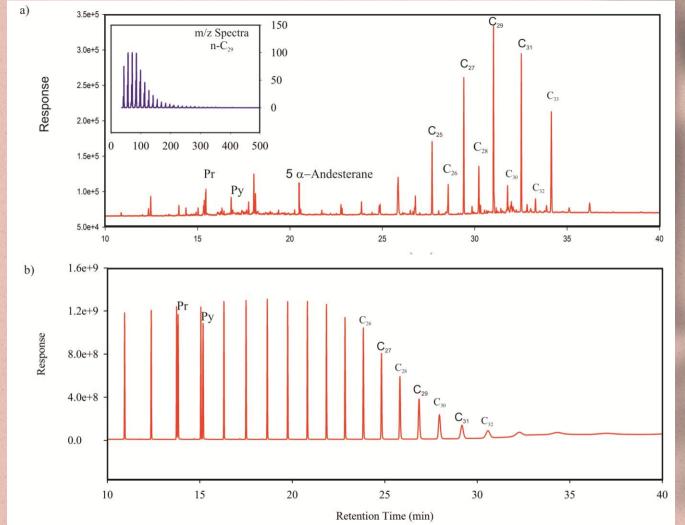
EARTH

Biswajit Roy <sup>a,\*</sup>, Sambit Ghosh <sup>a</sup>, Prasanta Sanyal <sup>a,b</sup>

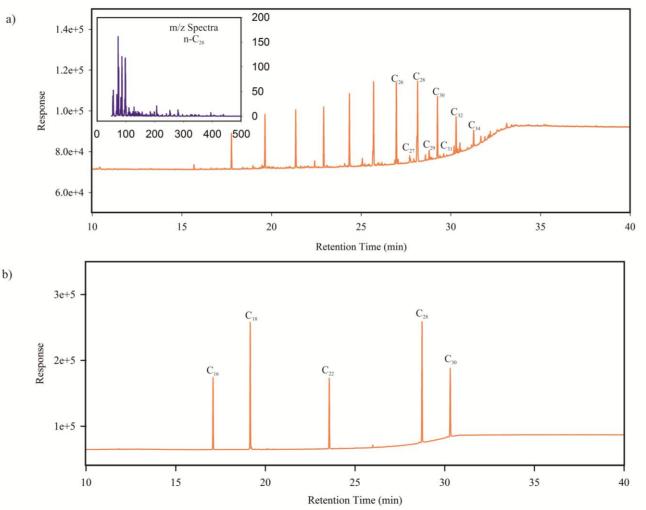
<sup>a</sup> Department of Earth Sciences, Indian Institute of Science Education and Research Kolkata, Mohanpur 741246, India

<sup>b</sup> Centre for Climate and Environmental Studies, Indian Institute of Science Education and Research Kolkata, Mohanpur 741246, India



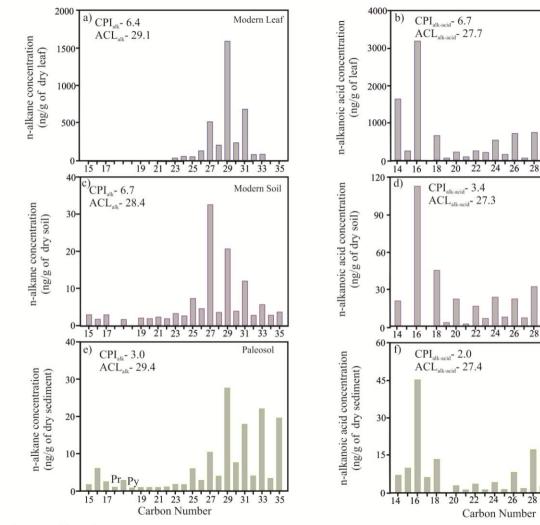


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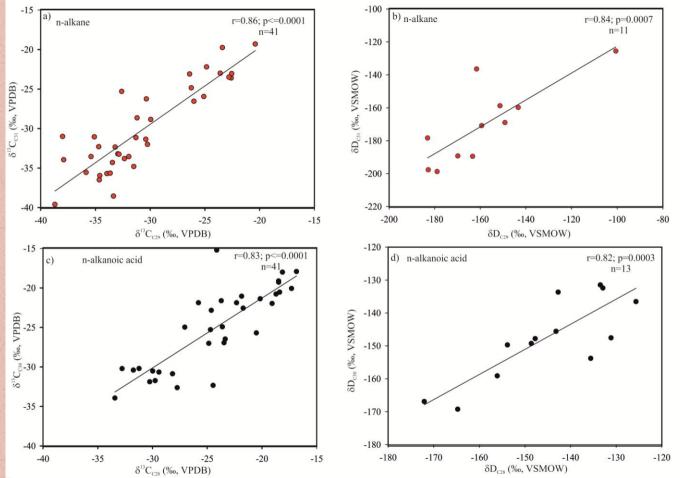
b)

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Modern Leaf



ВУ