

# Asia Hub and CIAERA Annual Meeting 2024

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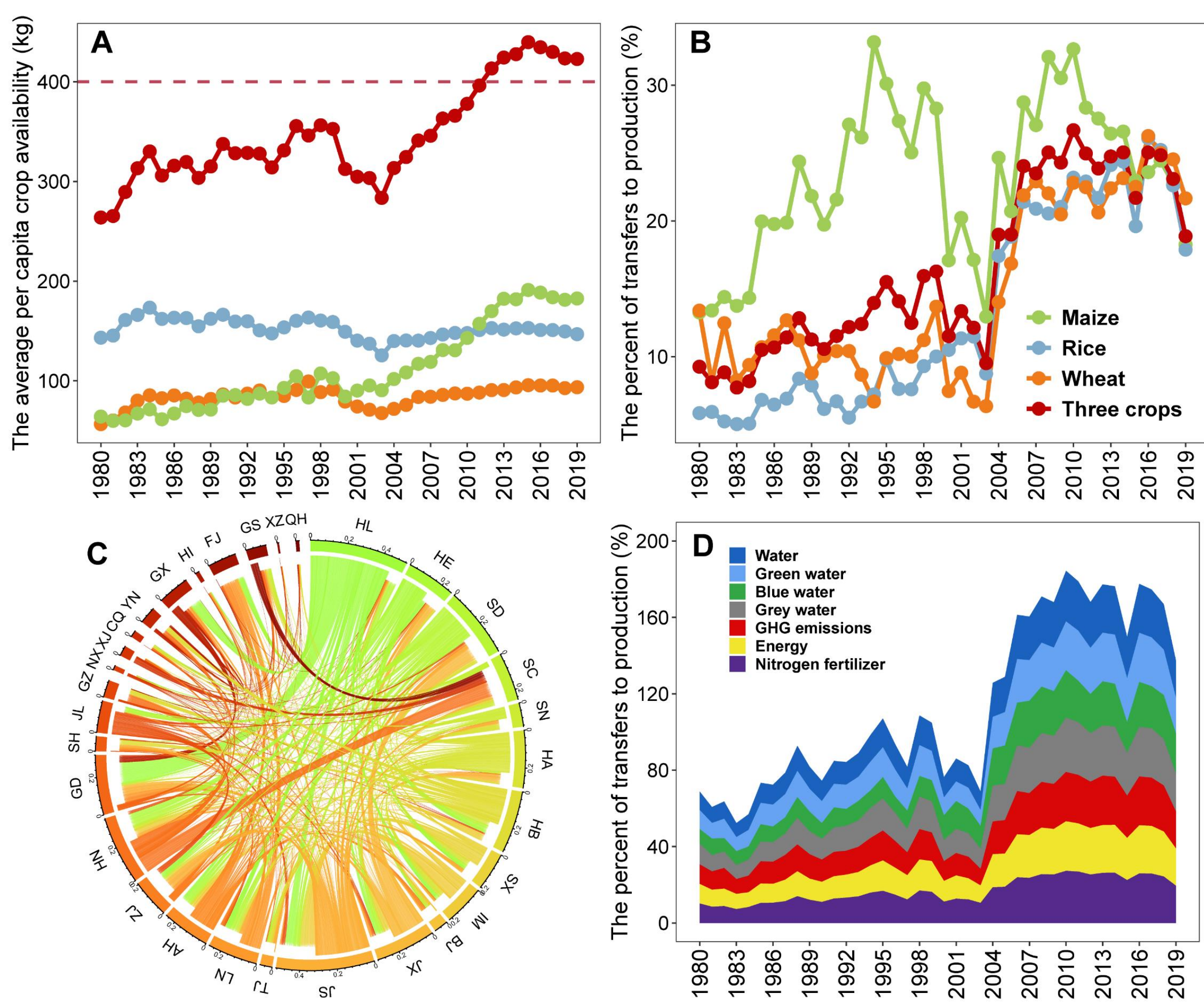
## The impact of cereal transfers on food-energy-water-CO<sub>2</sub> nexus in China

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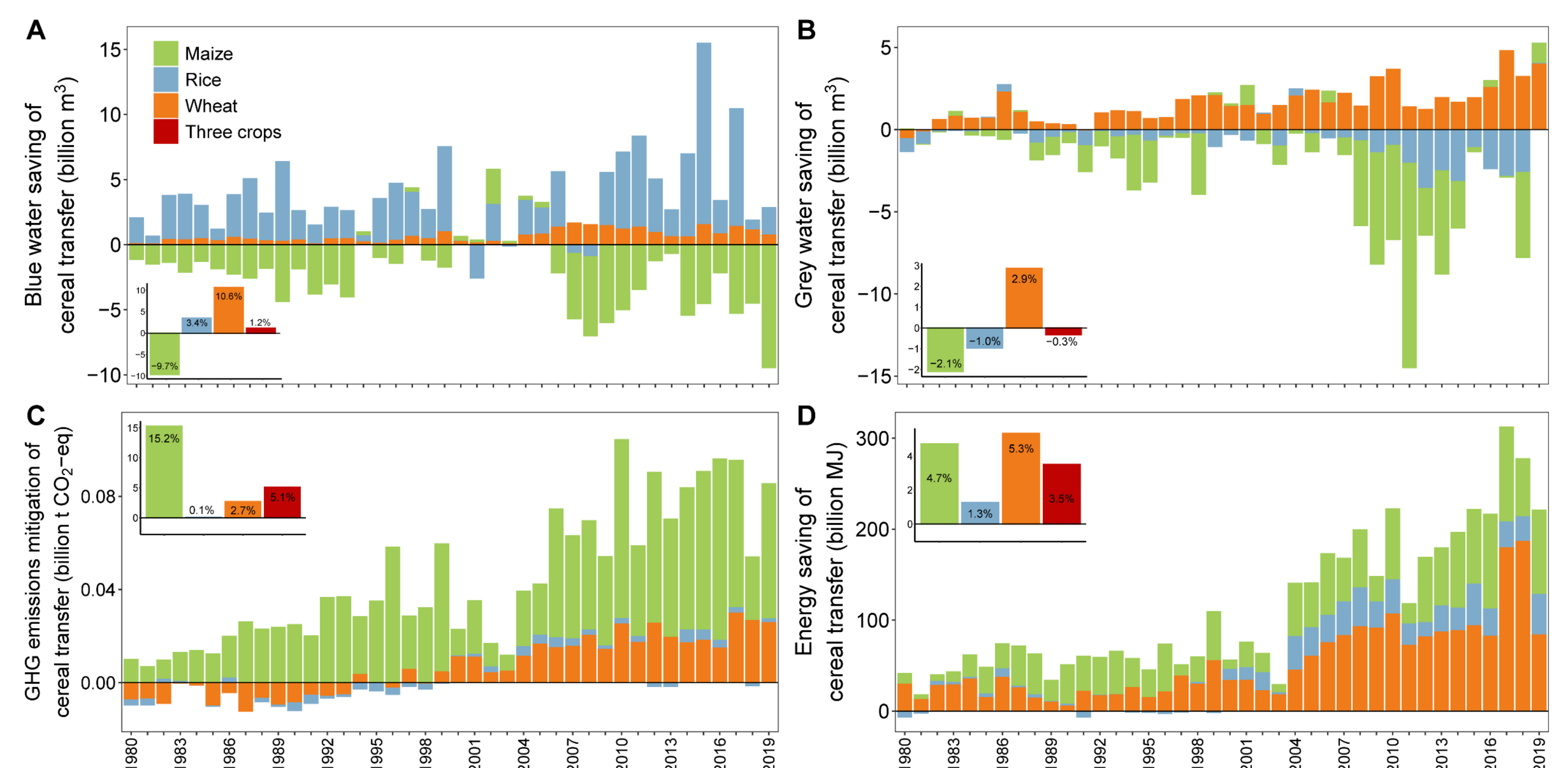
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Cereal (maize, rice and wheat) transfers bolster food security in China. As cereal transfers expand, it becomes more important to assess their environmental impact. This impact can be understood through the lens of the **food-energy-water-CO<sub>2</sub>** (FEWC) nexus. The virtual water, energy, and greenhouse gas (GHG) emissions flows embodied in cereal transfers are crucial indicators for assessing the environmental impact.



We found that 18% of cereal production had shifted from its original region to new areas, resulting in varying increases in embedded blue water usage (8 to 21%), energy consumption (10 to 20%) and GHG emissions (10 to 19%).



At the national level, cereal transfers have improved resources use efficiency and mitigated GHG emissions.

However, current cereal transfers amplify the environmental burden on exporting provinces while primarily benefiting the wealthier importing provinces.

