Supplement of

Water Food Energy Nexus: Changing Scenarios in India during recent Decades

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Supplementary Figures for "Water Food Energy Nexus: Changing Scenarios in India during recent Decades"
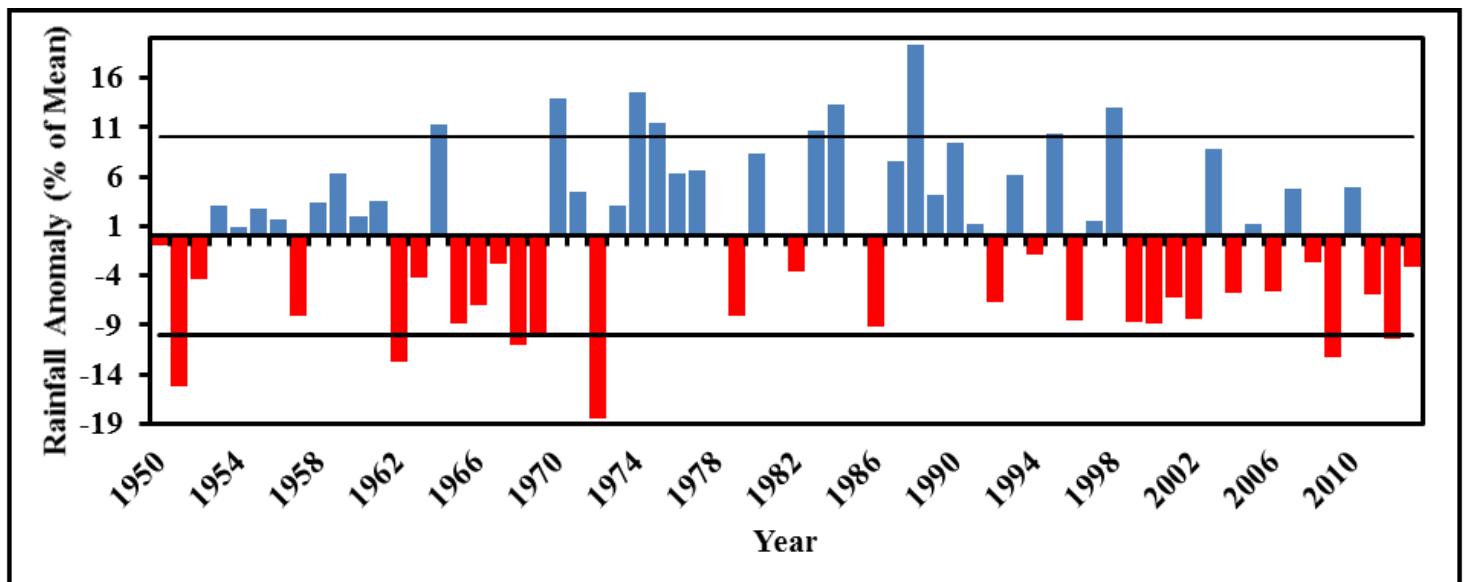
Fig.S1. Anomaly of AIMR computed with respect to its mean for the period from 1950 to 2013.
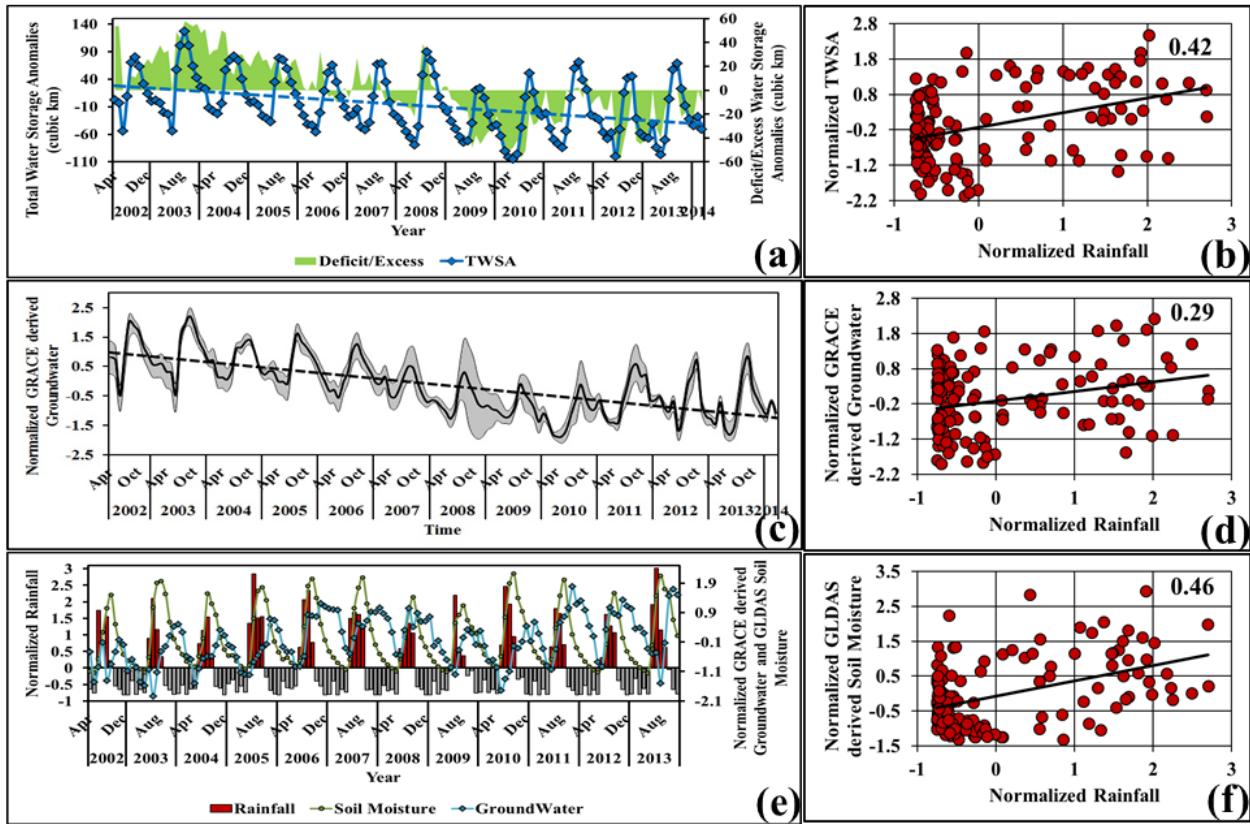
Fig.S2. Groundwater scenario of Middle Ganga Basin. (a) GRACE derived total water storage anomaly. **(b)** Scatter plot between Rainfall and TWSA. **(c)** GRACE-GLDAS derived groundwater storage anomaly. **(d)** Scatter plot between Rainfall and GRACE derived groundwater storage anomaly. **(e)** Rainfall, GRACE derived groundwater anomaly and GLDAS derived soil moisture. **(f)** Scatter plot between Rainfall and GLDAS derived soil moisture.
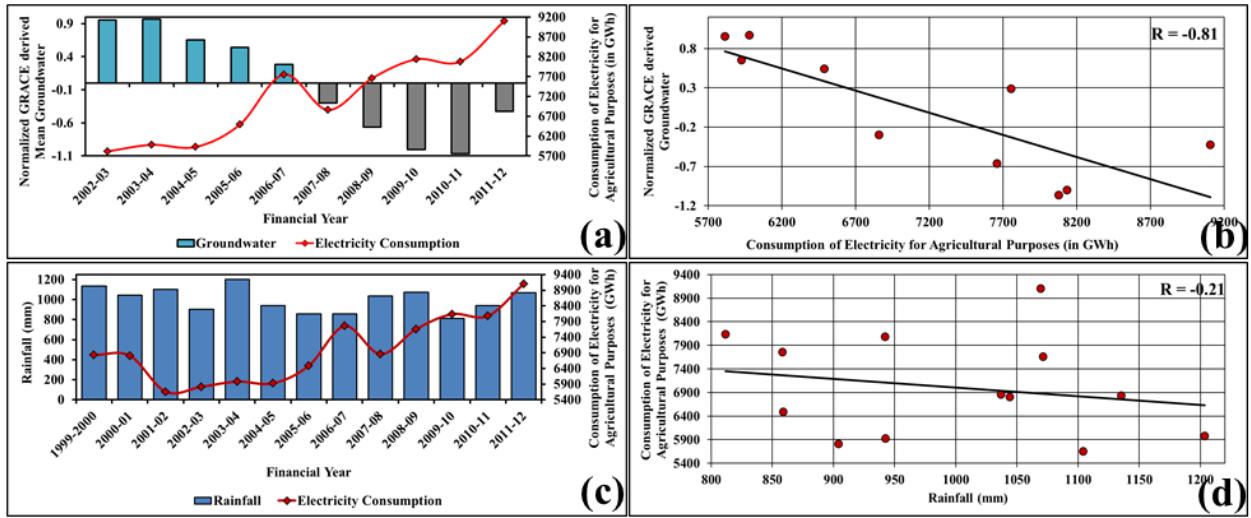
Fig.S3. Middle-Ganga Basin groundwater storage anomaly and energy consumption. (a) Electricity consumption for agricultural purpose and groundwater storage. **(b)** Scatter plot between electricity consumption for agricultural purpose and GRACE derived groundwater storage anomaly. **(c)** Consumption of electricity for agricultural purposes and Rainfall. **(d)** Scatter plot between Rainfall and electricity consumption.
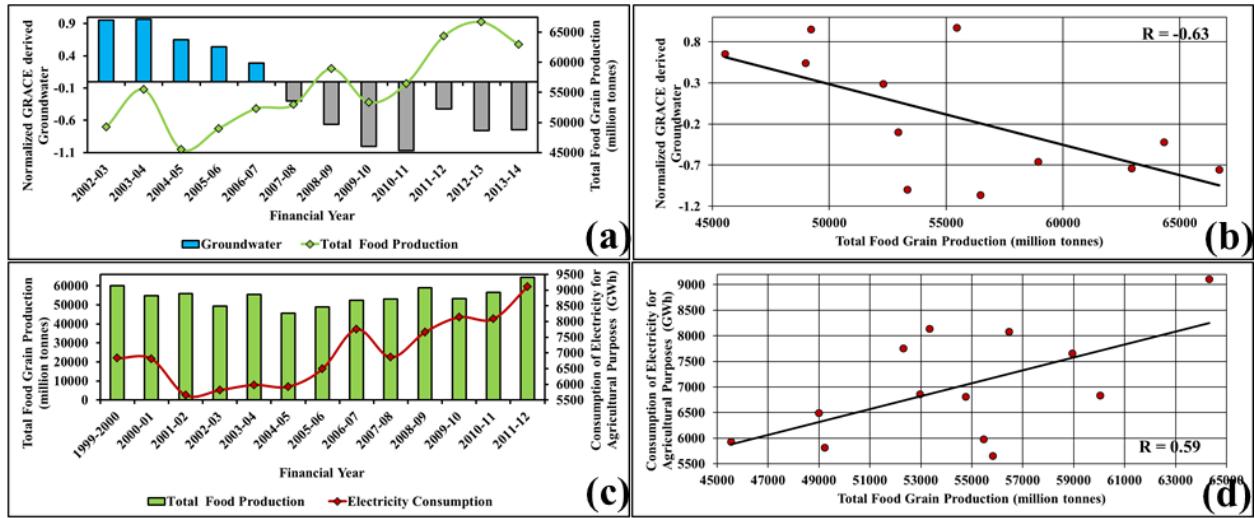
Fig.S4. Middle-Ganga Basin food-groundwater-energy nexus. (a) GRACE derived groundwater storage anomaly and total food production. (**b**) Scatter plot between GRACE derived groundwater storage anomaly and total food grain production. (**c**) Food grain production and electricity consumption for agricultural purposes. (**d**) Scatter plot between total food grain production and consumption of electricity for agricultural purposes.
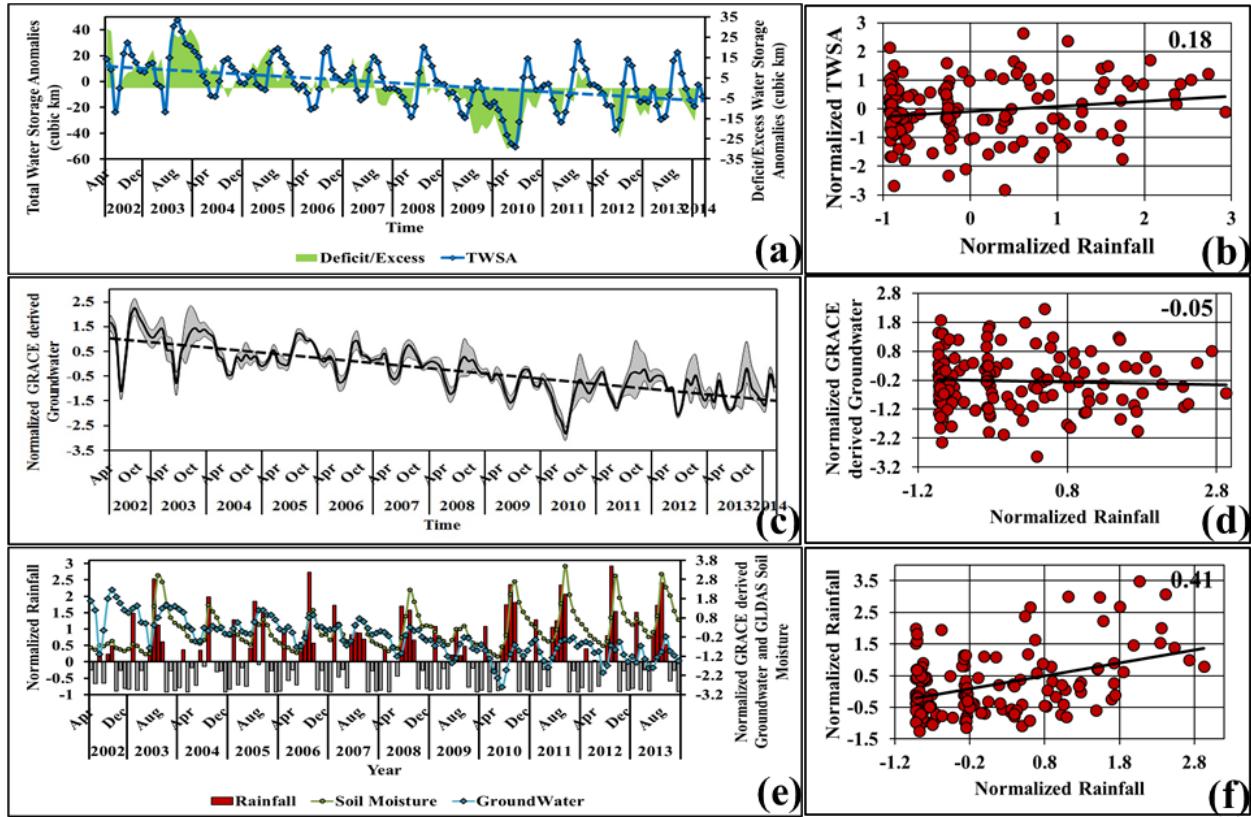
Fig.S5. Groundwater scenario of North-West India. **(a)** GRACE derived total water storage anomaly. **(b)** Scatter plot between Rainfall and TWSA. **(c)** GRACE-GLDAS derived groundwater storage anomaly. **(d)** Scatter plot between Rainfall and GRACE derived groundwater storage anomaly. **(e)** Rainfall, GRACE derived groundwater anomaly and GLDAS derived soil moisture. **(f)** Scatter plot between Rainfall and GLDAS derived soil moisture.
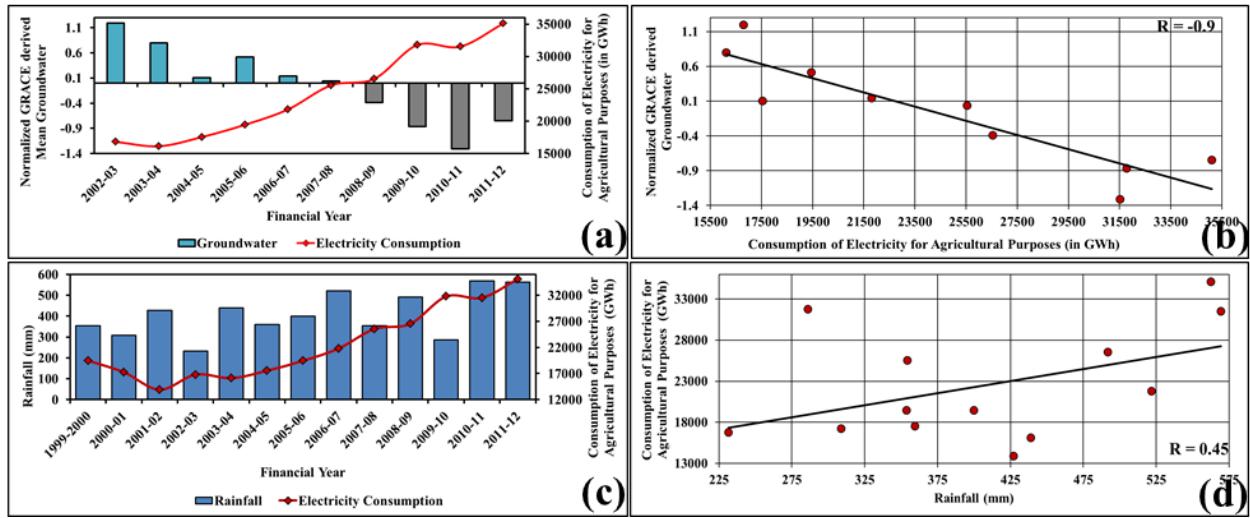
Fig.S6. North-Western India groundwater storage anomaly and energy consumption. (a) Electricity consumption for agricultural purpose and groundwater storage. **(b)** Scatter plot between electricity consumption for agricultural purpose and GRACE derived groundwater storage anomaly. **(c)** Consumption of electricity for agricultural purposes and Rainfall. **(d)** Scatter plot between Rainfall and electricity consumption.
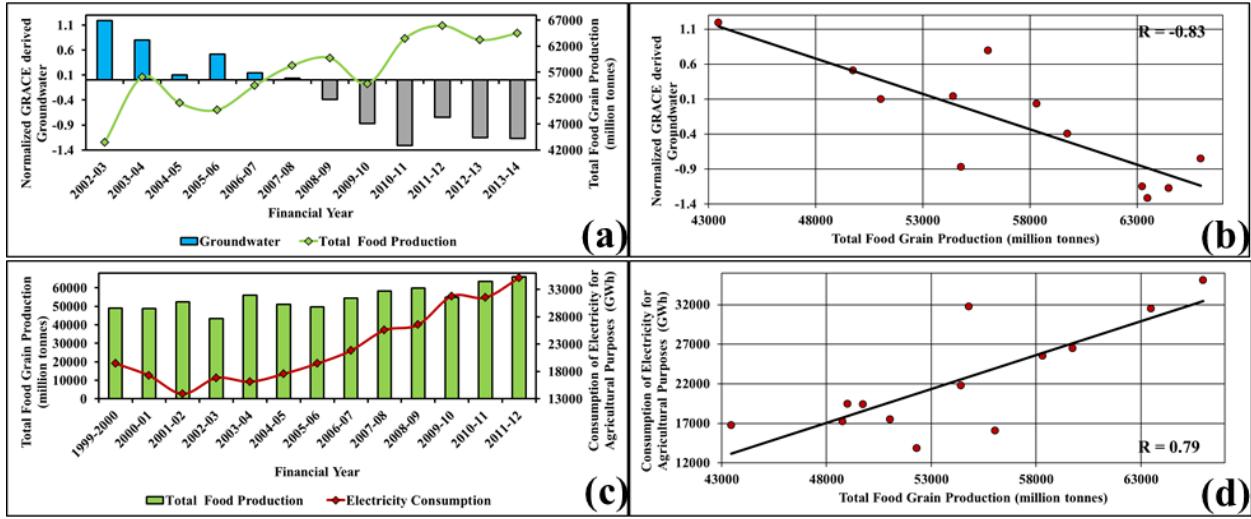
Fig.S7 North-Western India food-groundwater-energy nexus. (**a**) GRACE derived groundwater storage anomaly and total food production. (**b**)Scatter plot between GRACE derived groundwater storage anomaly and total food grain production. (**c**) Food grain production and electricity consumption for agricultural purposes. (**d**) Scatter plot between total food grain production and consumption of electricity for agricultural purposes.
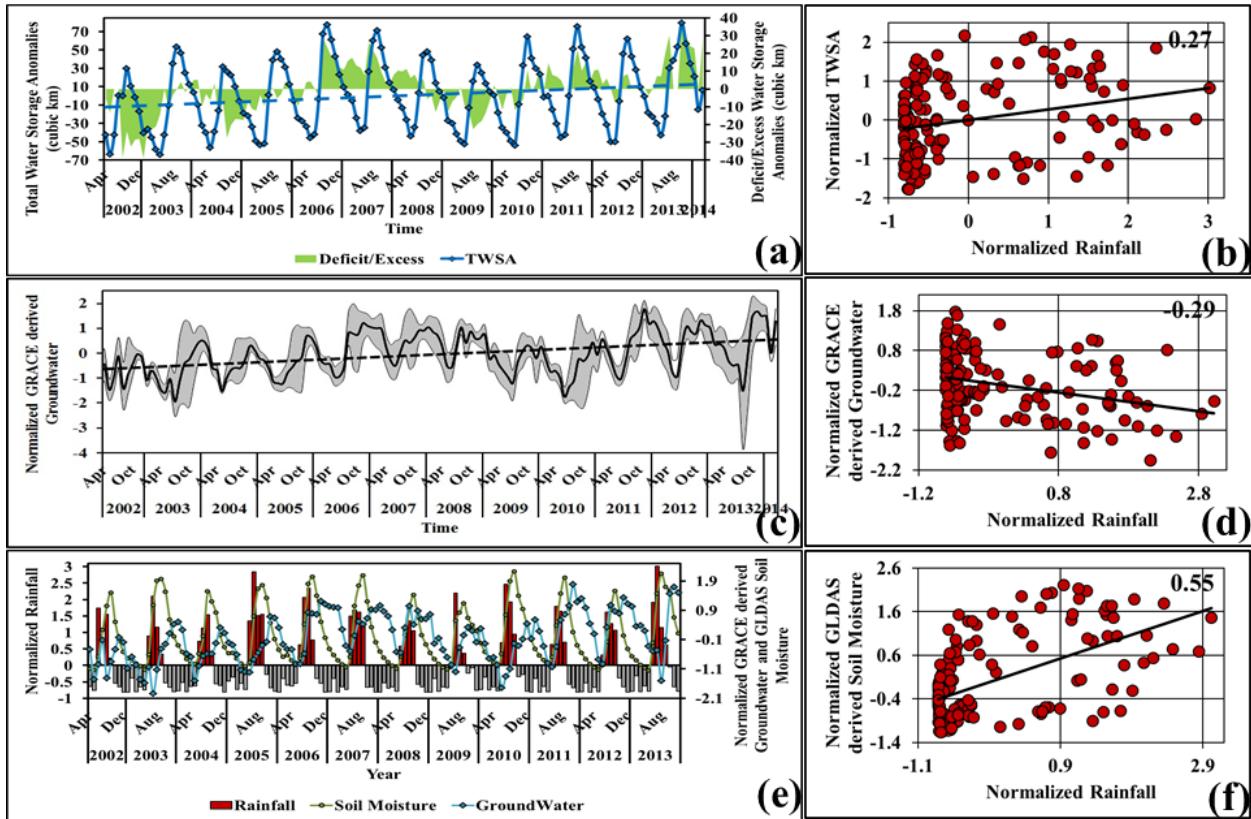
Fig.S8. Groundwater scenario of West-Central India. (a) GRACE derived total water storage anomaly. **(b)** Scatter plot between Rainfall and TWSA. **(c)** GRACE-GLDAS derived groundwater storage anomaly. **(d)** Scatter plot between Rainfall and GRACE derived groundwater storage anomaly. **(e)** Rainfall, GRACE derived groundwater anomaly and GLDAS derived soil moisture. **(f)** Scatter plot between Rainfall and GLDAS derived soil moisture.
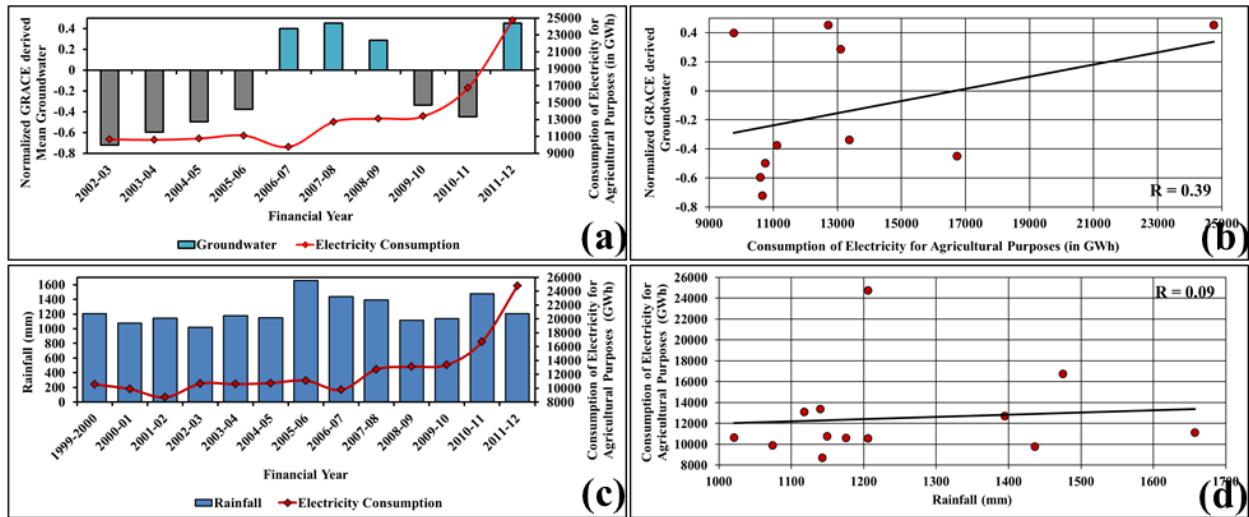
Fig.S9. West-Central India groundwater storage anomaly and energy consumption. (a) Electricity consumption for agricultural purpose and groundwater storage. **(b)** Scatter plot between electricity consumption for agricultural purpose and GRACE derived groundwater storage anomaly. **(c)** Consumption of electricity for agricultural purposes and Rainfall. **(d)** Scatter plot between Rainfall and electricity consumption.
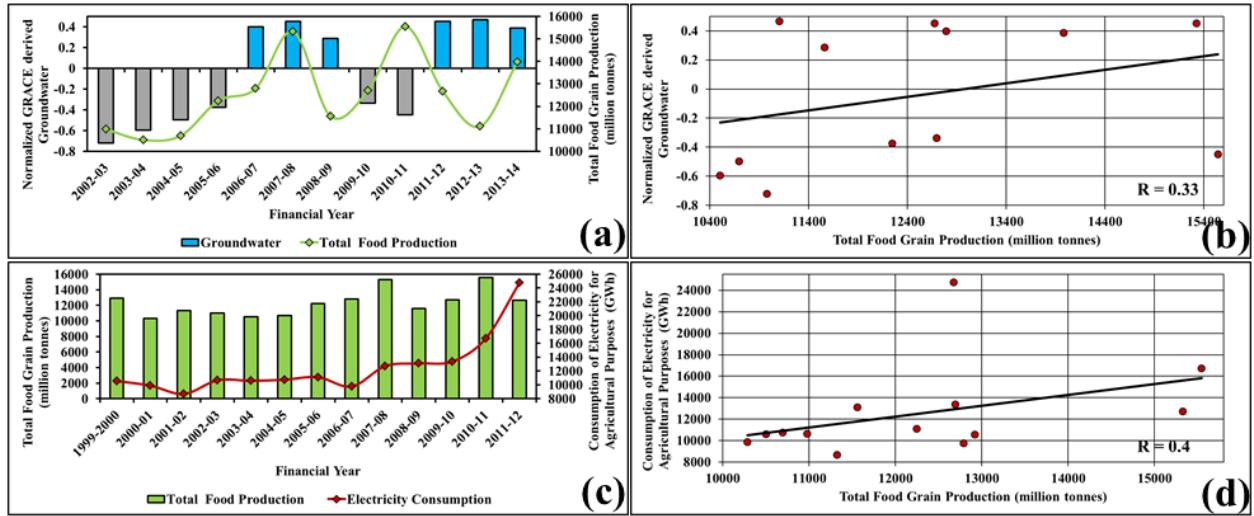
Fig.S10. West-Central India food-groundwater-energy nexus. (a) GRACE derived groundwater storage anomaly and total food production. **(b)**Scatter plot between GRACE derived groundwater storage anomaly and total food grain production. **(c)** Food grain production and electricity consumption for agricultural purposes. **(d)** Scatter plot between total food grain production and consumption of electricity for agricultural purposes.