

Assessment of Inter-Sectoral Virtual Water Reallocation and Linkages in the Northern Tianshan Mountains, China

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Table S1. Total output of each economic sector.

Sectors	Output (10 ⁸ CNY)
Planting sector	1233.487
Forestry	26.904
Animal husbandry	586.504
Fishery	17.178
Mining and separating	2814.623
Manufacturing	4070.200
Electricity	1252.241
Construction	1725.606
Services	5382.926

Table S2. Total output of planting sector.

Planting sector	Output (10 ⁸ CNY)
Rice	12.367
Wheat	297.777
Coarse cereals	266.130
Soybeans	21.688
Cotton	325.542
Oil plants	76.782
Sugar beets	17.721
Vegetables	63.370
Melons	22.118
Potatoes	8.782
Alfalfa	52.434
Grapes	40.782
apples	12.424
Fragrant pears	0.058
Red jujube	15.613

Table S3. The internal consumption and export of each economic sector.

Sectors	Internal consumption (<i>f</i> , 10 ⁴ CNY)	Export (<i>e</i> , 10 ⁴ CNY)
Planting sector	224,539.85	112,965.05
Forestry	5665.80	2850.44
Animal husbandry	161,243.47	81,120.91
Fishery	2512.75	1264.15
Mining and separating	391,025.45	83,439.28
Manufacturing	571,278.97	121,902.82
Electricity	64,268.70	13,714.03
Construction	411,305.12	137,475.86
Services	3,082,086.92	1,130,434.50

Table S4. The technical coefficient matrix of each economic sector.

Sectors	Planting sector	Forestry	Animal husbandry	Fishery	Mining and separating	Manufacturing	Electricity	Construction	Services
Planting sector	0.2389	0.1060	0.3222	0.1580	0.0074	0.0644	0.0004	0.1436	0.0176
Forestry	0.0013	0.4451	0.0008	0.0017	0.0001	0.0003	0.0000	0.0010	0.0006
Animal husbandry	0.1216	0.0197	0.0394	0.0142	0.0020	0.0181	0.0001	0.0380	0.0051
Fishery	0.0003	0.0010	0.0003	0.0155	0.0002	0.0003	0.0000	0.0012	0.0016
Mining and separating	0.0159	0.0333	0.0096	0.0047	0.0422	0.0238	0.0017	0.1958	0.0120
Manufacturing	0.2322	0.4630	0.1713	0.0740	0.0565	0.1555	0.0033	1.1209	0.1204
Electricity	0.0508	0.0790	0.0249	0.0188	0.0540	0.0478	0.0057	0.3158	0.0363
Construction	0.0402	0.0593	0.0199	0.0098	0.0130	0.0206	0.0016	0.2918	0.0740
Services	0.1271	0.4512	0.1115	0.0573	0.0815	0.1082	0.0032	0.5386	0.1701

Table S5. Blue and green physical water consumption of economic sectors.

Sectors	Blue physical water consumption (km ³)	Green physical water consumption (km ³)
Planting sector	8.1850	5.104
Forestry	1.2923	0.000
Animal husbandry	1.3490	0.000
Fishery	0.2530	0.000
Mining and separating	0.0167	0.000
Manufacturing	0.0112	0.000
Electricity	0.0111	0.000
Construction	0.0330	0.000
Services	0.0105	0.000

Table S6. Blue and green physical water consumption of planting sector.

Planting sector	Blue physical water consumption (km ³)	Green physical water consumption(km ³)
Rice	0.0929	0.079
Wheat	1.3210	1.274
Coarse cereals	1.0905	1.138
Soybeans	0.0405	0.064
Cotton	3.6265	1.444
Oil plants	0.0267	0.169
Sugar beets	0.1399	0.126
Vegetables	0.3403	0.152
Melons	0.2673	0.044
Potatoes	0.0716	0.023
Alfalfa	0.4380	0.413
Grapes	0.4247	0.073
apples	0.0190	0.098
Fragrant pears	0.0005	0.000
Red jujube	0.2856	0.008

Table S7. The backward and forward virtual water linkages of each economic sector.

Sectors	Blue water		Green water	
	FL	BL	FL	BL
Planting sector	14.42	5.66	8.99	3.39
Forestry	1.66	4.07	0	1.40
Animal husbandry	1.88	3.15	0	1.27
Fishery	0.26	1.32	0	0.62
Mining and separating	0.01	0.18	0	0.10
Manufacturing	0.02	0.64	0	0.36
Electricity	0.03	0.02	0	0.01
Construction	0.03	2.79	0	1.57
Services	0.01	0.49	0	0.28

Table S8. The normalized backward and forward linkages of each economic sector.

Normalized	Blue water		Green water	
	FL	BL	FL	BL
Planting sector	7.08	2.78	9	3.39
Forestry	0.82	2.00	0	1.40
Animal husbandry	0.92	1.55	0	1.27
Fishery	0.13	0.65	0	0.62
Mining and separating	0.01	0.09	0	0.10
Manufacturing	0.01	0.32	0	0.36
Electricity	0.01	0.01	0	0.01
Construction	0.01	1.37	0	1.57
Services	0.01	0.24	0	0.28

Table S9. The normalized internal allocation of each economic sector.

Sectors	Planting sector	Forestry	Animal husbandry	Fishery	Mining and separating	Manufacturing	Electricity	Construction	Services	IDL	Normalized
Planting sector	2.669	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.669	5.771
Forestry	0.000	0.804	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.804	1.738
Animal husbandry	0.000	0.000	0.546	0.000	0.000	0.000	0.000	0.000	0.000	0.546	1.181
Fishery	0.000	0.000	0.000	0.124	0.000	0.000	0.000	0.000	0.000	0.124	0.268
Mining and separating	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.003	0.007
Manufacturing	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.002	0.004
Electricity	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.004	0.009
Construction	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000	0.009	0.019
Services	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.003