

Table S1. Simulation results of the IFTSP model in the first planning period.

Region	Department	Reused water		
		t=1	t =2	t =3
Panshi	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Yongji	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Shuangyang	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Jiutai	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Dehui	industrial	[656.98, 1938.10]	[656.98, 1938.10]	[656.98, 1938.10]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[13,745.70, 16,867.60]	[13,745.70, 16,867.60]	[12,542.70, 16,867.60]
Yitong	industrial	[94.94, 94.94]	[94.94, 94.94]	[94.94, 94.94]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Changcuhn	industrial	[1132.20, 2053.00]	[0.00, 786.20]	[0.00, 0.00]
	municipal	[0.00, 40.83]	[0.00, 40.83]	[0.00, 40.83]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[3381.60, 4149.61]	[3381.60, 4149.61]	[3381.60, 4149.61]

Nongan	industrial	[0.00, 1612.20]	[0.00, 1612.20]	[0.00, 1612.20]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 26,136.80]	[0.00, 26,136.80]	[0.00, 26,136.80]

Table S2. Simulation results of the IFTSP model in the second planning period.

Region	Department	Reused water		
		h=1	h=2	h=3
Panshi	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Yongji	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Shuangyang	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Jiutai	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Dehui	industrial	[656.98, 2334.00]	[656.98, 1768.50]	[656.98, 1175.28]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[6062.65, 16953.00]	[6062.65, 16953.00]	[6062.65, 16953.00]
Yitong	industrial	[108.71, 131.50]	[108.71, 131.50]	[108.71, 131.50]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]

Changcuhn	industrial	[0.00, 4768.69]	[0.00, 3309.00]	[0.00, 1777.00]
	municipal	[0.00, 41.34]	[0.00, 41.34]	[0.00, 41.34]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 4170.60]	[0.00, 4170.60]	[0.00, 4170.60]
Nongan	industrial	[0.00, 1612.20]	[0.00, 1612.20]	[0.00, 1612.20]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 26,136.80]	[0.00, 26,136.80]	[0.00, 26,136.80]

Table S3. Simulation results of the IFTSP model in the third planning period.

Region	Water sector	Reused water		
		h=1	h=2	h=3
Panshi	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Yongji	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Shuangyang	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Jiutai	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Dehui	industrial	[656.98, 3421.49]	[656.98, 2773.49]	[656.98, 2177.93]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[8673.13, 13531.82]	[8673.13, 13531.82]	[8673.13, 13531.82]

Yitong	industrial	[41.18, 147.93]	[41.18, 147.93]	[41.18, 147.93]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
Changcuhn	industrial	[0.00, 6736.44]	[0.00, 5084.31]	[0.00, 3351.41]
	municipal	[0.00, 950.40]	[0.00, 950.40]	[0.00, 950.40]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 4754.80]	[0.00, 4754.80]	[0.00, 4754.80]
Nongan	industrial	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	municipal	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	ecological	[0.00, 0.00]	[0.00, 0.00]	[0.00, 0.00]
	agricultural	[0.00, 26,136.80]	[0.00, 26,136.80]	[0.00, 26,136.80]