

Table S1. Questionnaires sent to SHP owners, SHP government administrators and the public

Type of questions	Questions	Options	SHP owners		SHP government administrators		The public	
			Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Background Information	What kind of your hydropower projects belongs to?	Diversion type hydropower project	274	57.3				
		Dam type hydropower project	126	26.4				
		Mix type hydropower project	78	16.3				
Environmental Impacts	Do you think the small-scale hydropower has the negative impact on the environment?	Yes	247	51.7	38	69.1	494	81.9
		No	231	48.3	17	30.9	109	18.1
	What kind of complaint from the public is generated by hydropower in your areas?	Conflict with water supply			12	21.8		
		Conflict with flood prevention			10	18.2		
		Cutting down/ drying the river flows			11	20		
	Other conflicts			27	49.1			
	No complaint from the public			17	30.9			
Opinion	Do you think the small-scale	Yes	461	96.4	50	90.9	493	81.8

Type of questions	Questions	Options	SHP owners		SHP government administrators		The public	
			Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
	hydropower belongs to green power?	No	17	3.6	5	9.1	110	18.2
	Do you think it is necessary to implement environmental flows?	Yes	261	54.6	35	63.6	549	91
		No	217	45.4	20	36.4	54	9
	What are possible difficulties do you think in implementing environmental flows?	Cognitive conflicts	188	39.3	32	58.2		
		Economic conflicts	394	82.4	48	87.3		
		Technical difficulties	153	32	22	40		
		Insufficient supervision			24	43.6		
	If the government issues the mechanism of ecological electricity price, which will	Yes, I think so			19	34.6	174	28.9

Type of questions	Questions	Options	SHP owners		SHP government administrators		The public	
			Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
	increase the electricity pricing to compensate the owners to some extent, do you think they (the owners) will carry out the environmental flows?	No, I don't think so			6	10.9	31	5.1
		It depends on the government's supervision.			30	54.6	398	66
Economy	How is the impact on your electrical generation by implementing environmental flows under your estimation?	<5%	66	13.8	12	21.8		
		5%-10%	142	29.7	12	21.8		
		10%-15%	85	17.8	12	21.8		
		15%-20%	71	14.9	12	21.8		
		>20%	114	23.9	7	12.8		
		<0%	28	5.9	2	3.6		

Type of questions	Questions	Options	SHP owners		SHP government administrators		The public	
			Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
How is the average return on your hydropower project at present electricity sale prices to the grid companies?	0%-5%	159	33.3	9	16.4			
	5%-10%	196	41	27	49.1			
	10%-15%	66	13.8	13	23.6			
	>15%	29	6.1	4	7.3			
What is your perspective on the latest compensation of environmental flows in Fujian Province?	The compensation is too high	7	1.5	12	21.8			
	The compensation is too low	189	39.5	3	5.5			
	The compensation is reasonable	51	10.7	6	10.9			
	The compensation should be differentiated by different types of hydropower projects	211	44.1	32	58.2			
Who needs to bear the economic loss generated by	I'm against the compensation	20	4.2	2	3.6			
	The government solely	106	22.2	4	7.2	41	6.8	
	The owners of small-scale hydropower project	24	5	1	1.8	81	13.4	

Type of questions	Questions	Options	SHP owners		SHP government administrators		The public	
			Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
	implementing environmental flows?	Electricity consumers (by paying more for the electric bill)	97	20.3	8	14.5	41	6.8
		The government and the owners	62	13	7	12.7	158	26.2
		The government and electricity consumers	56	11.7	2	3.6	24	4
		The government, the owners and electricity consumers	253	52.9	33	60	259	43
	Are you willing to pay 1% more than your usual electricity bill to support environmental improvement by	Yes			28	50.9	447	74.1

Type of questions	Questions	Options	SHP owners		SHP government administrators		The public	
			Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
	implementing environmental flows? e.g. If your former electricity bill is 200 CNY per month, you'll need to pay extra 2 CNY per month now (in other words, you need to pay 202 CNY per month).	No			27	49.1%	156	25.9%
	Total		478		55		603	

Table S2 Interview protocol questions for SHP owners

Interview protocol questions

Which type does your hydropower project belong to?

Is there any dewatered phenomenon between the power plant and the dam?

Is it difficult for small-scale hydropower project to implement environmental flows? If yes, what difficulties are there?

How much would it affect your electricity generation under your estimation if implementing environmental flows?

Is there any compensation from the government for you to quit the project?

Are you satisfied with the compensation?

Why were you willing to quit your project even though you suffered the losses?

Do you think it necessary for each hydropower project to implement environmental flows?

Table S3 Interview protocol questions for SHP government administrator

Interview protocol questions

Do you think it necessary to implement environmental flows?

Is it difficult for small-scale hydropower project to implement environmental flows? If yes, what difficulties are there?

Who do you think will undertake the economic losses incurred by environmental flows implementation?

What do you think of the current incentives?

Table S4 Interview protocol questions for hydro-ecology engineer

Interview protocol questions

What do you think of the negative impacts of small-scale hydropower projects on river ecology?

Do you have any proposals for mitigating the environmental impacts made by small-scale hydropower projects?

Do you think it necessary to implement environmental flows?

Is it difficult for small-scale hydropower project to implement environmental flows? If yes, what difficulties are there?

What do you think of current incentives?
