

Table 5 Description of the variables specified in the model

Variable	Meaning	Description	Expected signs
Dependent variable (first stage)			
Grown improved variety	Whether a farmer grows at least one improved rice variety or not.	Dummy (grows = 1, 0 otherwise)	
Dependent variable (second stage)			
Area grown to improved variety	Proportion of farm area grown to improved rice variety	Continuous (hectares)	
Independent variables			
Gender	Gender of the farmer	Dummy (male =1, Female =0)	+
Age	Age of the household head	Continuous (years)	-
Education	Education level of the household head	Continuous (years of formal education)	+
Household size	number of people in household	Continuous (Number)	+
Membership in association	Whether a farmer belong to any association	Dummy (member = 1 , 0 otherwise)	+
Access to media	Whether a farmer had access to media or not.	Dummy (access to media = 1, 0 otherwise)	+
Ownership of mobile phone	Whether a farmer owned a mobile phone or not	Dummy (owns a mobile phone= 1, 0 otherwise)	+
Farm size	Size of farmland	Continuous hectares	+
Main occupation	Main occupation of the rice farmer	Dummy (1= farming, 0 otherwise)	±
Access to credit	Whether a farmer has access to credit or not	Dummy (access to credit = 1, 0 otherwise)	+
Agricultural training	Whether a farmer has attended agricultural training or not	Dummy (attends agricultural training = 1, 0 otherwise)	+
Off-farm employment	Whether a farmer has any off farm employment or not	Dummy (engage in non-agricultural activities = 1, 0 otherwise)	-
Agricultural income	Income from all agricultural activities	Continuous (naira)	±