

Table 1 The final locality set of the assessment criteria with relative weights for multiple criteria decision-making techniques assigned by the expert judgement

Criteria	Unit of measure (Indicators)	Relative weights for multiple criteria decision-making techniques			
		Ranking	Rating	Combine weight	Pairwise comparisons
C1 The pursuit of self-reliant agriculture based on limited agricultural land and water resources		34.94	40.00	37.47	48.60
S1.1 Land use efficiency	The ratio of the cultivated area in the dry season to the cultivated area in the rainy season	15.83	17.82	16.82	17.61
S1.2 Production cost	The percentage of the operation cost reduced per square meter per year	13.04	11.91	12.48	13.82
S1.3 Farm productivity	The percentage of the production income increased per area per year	13.57	11.82	12.69	12.00
S1.4 Water productivity	The percentage of the production income increased per unit of water per year	13.91	13.27	13.59	13.18
S1.5 Water use efficiency	The ratio of the cultivated area in the dry season to the amount of rainwater harvested in the on-farm pond	14.78	15.09	14.94	16.58
S1.6 Production cost and benefit	Benefit Cost Ratio: BCR	14.61	15.09	14.85	13.38
S1.7 The diversification of farm production system	The number of agricultural activities in the farm	14.26	15.00	14.63	13.42
C2 The self-sufficiency of household daily consumption and income generation		33.09	32.27	32.68	25.59
S2.1 Food self-sufficiency	The sufficiency of rice products for the annual household consumption	21.90	26.09	23.99	30.90
S2.2 The reduction of the cost of living	The percentage of the annual household consumption expenditure for food and beverages reduced by the rice production for the annual household consumption	20.19	20.64	20.42	16.80
S2.3 Household self-sufficiency	The ratio of the net profit to the annual household consumption expenditure	22.38	22.91	22.65	21.17
S2.4 Job creation	The number of months with household members engaged in agricultural work per year	17.52	13.36	15.44	13.70
S2.5 Variability of income generation in terms of time-dispersion	The number of months with income generation per year	18.00	17.00	17.50	17.44
C3 The pursuit of sustainable rain-fed agriculture		31.97	27.73	29.85	25.82
S3.1 Mixed farming	The diversity of plant types and animal species in the farm	37.11	40.91	39.01	51.12
S3.2 Multiple cropping	The number of crops in the same area in sequenced seasons	33.59	35.45	34.52	26.33
S3.3 Environmental benefits and services of perennial plants	The ratio of the area with perennial plants to the whole farmland	29.30	23.64	26.47	22.55