Electric supplementary material

SM1. Classification table of 774 vegetation communities recorded in the Actual Vegetation Map of Japan [1] into 22 land-cover types. Classification was done in reference to the work by Ogawa et al. [2], and land-cover types used in this study were those suggested by FAO [3].

Land-cover classification proposed by Ogawa et al. [2]			Land-cover classification used in this study
coarse category	intermediate category	fine category	(Land-cover types according to FAO [3])
grassland	natural grassland	alpine vegetation	herbaceous or shrub depending on vegetation communities
		snow patch community	snow/ice
		sand dune vegetation	herbaceous
		coastal cliff herb vegetation	herbaceous
		natural grassland	herbaceous
	secondary grassland	secondary grassland (high height)	herbaceous
		secondary grassland (low height)	herbaceous
	artificial grassland	artificial grassland (including golf courses)	vegetated urban
		artificial grassland (excluding golf courses)	pasture or vegetated urban depending on vegetation communities
	others	sasa grassland	herbaceous
forest	natural forest	evergreen conifer natural forest	coniferous forest
		deciduous conifer natural forest	coniferous forest
		evergreen broad-leaved natural forest	shrub or broad-leaved forest depending on vegetation communities
		deciduous broad-leaved natural forest	shrub or broad-leaved forest depending on vegetation communities
		evergreen conifer and evergreen broad-leaved natural forest	mixed forest
		evergreen conifer and deciduous broad-leaved natural forest	mixed forest

	secondary forest	evergreen conifer secondary forest	coniferous forest
		evergreen broad-leaved secondary forest	shrub or broad-leaved forest depending on vegetation communities
		deciduous broad-leaved secondary forest	shrub or broad-leaved forest depending on vegetation communities
		evergreen conifer and evergreen broad-leaved secondary forest	mixed forest
		evergreen conifer and deciduous broad-leaved secondary forest	mixed forest
	plantation	evergreen conifer plantation	coniferous forest
		deciduous conifer plantation	coniferous forest
		evergreen broad-leaved plantation	shrub or broad-leaved forest depending on vegetation communities
		deciduous broad-leaved plantation	shrub or broad-leaved forest depending on vegetation communities
	others	natural scrub	shrub
		coastal scrub	shrub
		bamboo forest	bamboo
wetland	wetland	salt marsh vegetation	salt marsh
		wetland vegetation	fresh and brackish water wetland
near water	near water	aquatic plant community	water body
		seaweed community	water body
		mangrove community	mangrove
special character	special character	natural bare land	bare area
		plant communities in limestone	herbaceous
		vegetation in volcanic desert, vegetation in solfatara formation	herbaceous or lichens/mosses depending on vegetation communities
		rocky vegetation	bare area
		plant community on raised coral-reef	sparse vegetation
	paddy	paddy-field weed communities	paddy

		weed communities in uncultivated paddy-field	herbaceous
	cropland	field weed communities	cropland
		weed communities in uncultivated field	herbaceous
	others	weed communities of the roadside	herbaceous
		Thea sinensis garden	shrub crop
		orchard	tree crop
urban	urban	urban and residential district with many trees	vegetated urban
		urban district with a few trees	urban
		land constructed for residence and factory	urban
water body	water body	water body	water body
unknown	unknown	unknown	unknown

[1] Environment Agency; Asia Air Survey Co. Ltd. The 5th national survey on the natural environment: Report of vegetation survey 1999.
[2] Ogawa, M.; Takenaka, A.; Kadoya, T.; Ishihama, F.; Yamano, H.; Akasaka, M. A comprehensive new land-use classification map for Japan for biodiversity assessment and species distribution modeling. Japanese J. Conserv. Ecol. 2013, 18, 69–76, doi:https://doi.org/10.18960/hozen.18.1_69.
[3] Gregorio, A.D.; Jansen, L.J.M. Land Cover Classification System (LCCS): Classification Concepts and User Manual; FAO: Rome, 2000; ISBN 9789251042168.

SM2. Pearson correlation coefficients between pairs of indicators of agricultural ecosystem services and farmland biodiversity. Significant correlations were shown by . $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

	Rice production	Other agricultural production	Landscape aesthetics	Rural tourism	Forest edges	Irrigation ponds
Rice production	1					
Other agricultural production	0.12.	1				
Landscape aesthetics	-0.43***	-0.47***	1			
Rural tourism	0.02	0.00	0.10***	1		
Forest edges	-0.45***	-0.30***	0.70***	0.06*	1	
Irrigation ponds	0.12**	-0.34*	0.18.	0.14***	0.04	1

SM3. Average values and standard deviations (mean±SD) of agricultural ecosystem services and farmland biodiversity found within each bundle. Kruskal-Wallis test and Mann-Whitney's U test were performed to test the differences among and between the bundles, respectively. Different letters indicate significant differences between the bundles (p<0.001) and are in descending order of average values.

Bundles	Non-Rice	Rice	Hill	Mountain	Kruskal-Wallis
Number of municipalities	400	361	474	484	test (p)
Rice production [%]	3.3±4.4^{c}	24.2±13.8^{a}	10.2±5.6^{b}	2.6±2.4^{d}	<0.001
Other agricultural production [%]	11.7±11.2^{a}	9.4±7.3^{a}	3.9±4.0^{b}	2.1±2.6^{c}	<0.001
Landscape aesthetics [%]	24.2±21.5^{c}	2.9±5.9^{d}	30.4±20.5^{b}	75.8±21.7^{a}	<0.001
Rural tourism [%]	6.4±11.4^{b}	8.0±12.9^{b}	12.6±15.3^{a}	10.3±12.4^{a}	<0.001
Forest edges [m·ha^{-1}]	62.9±35.3^{b}	20.4±21.3^{c}	54.1±28.9^{b}	125.6±44.5^{a}	<0.001
Irrigation ponds [ponds·ha^{-1}]	0.016±0.017^{d}	0.051±0.109^{c}	0.223±0.331^{a}	0.123±0.178^{b}	<0.001