

Supporting Information

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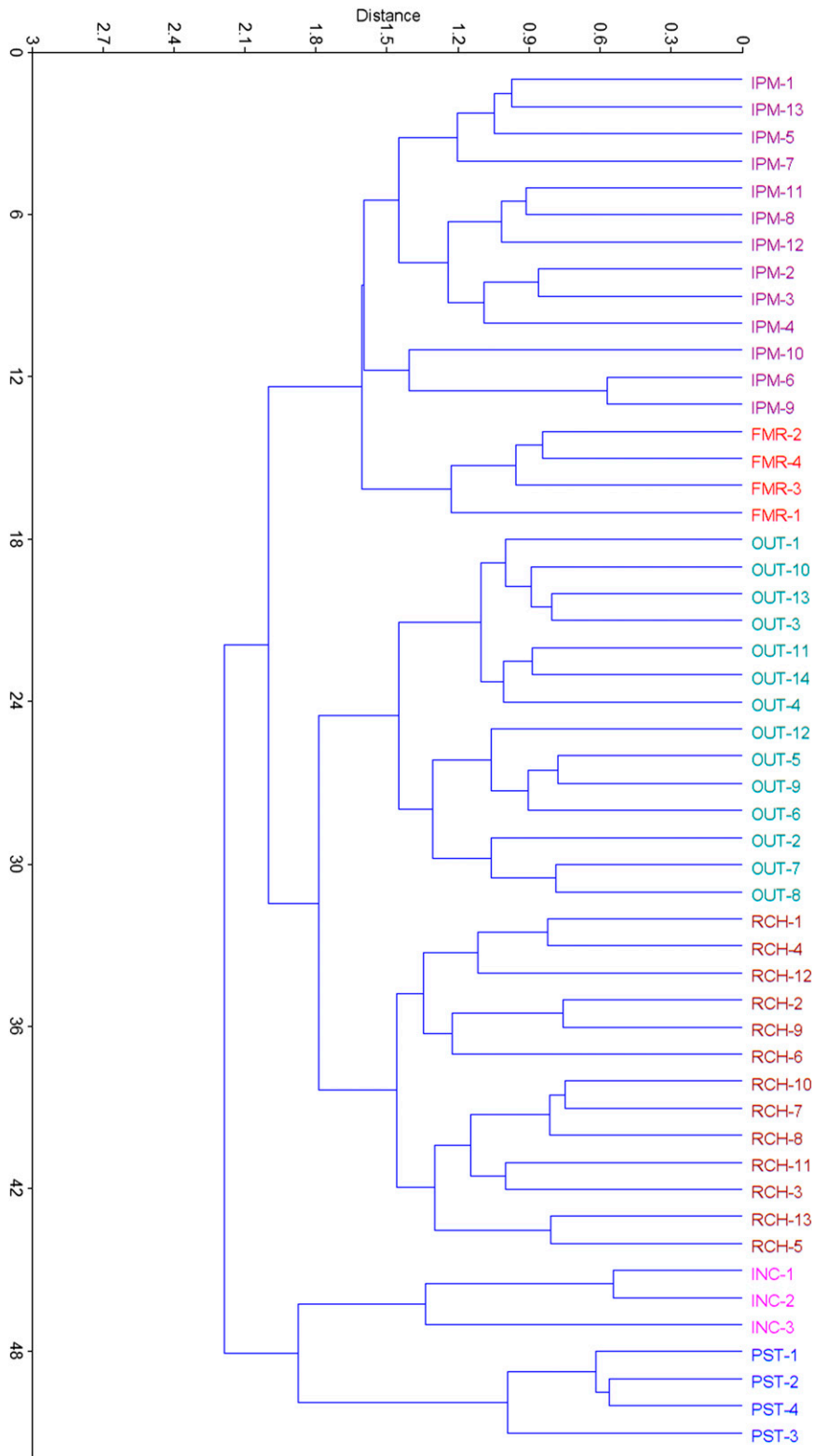


Fig. S1. Similarity dendrogram of 51 unique obstacles to integrated pest management (IPM) adoption in developing countries, based on pairwise distances capturing how often the statements were sorted into groups that “belong together” or “share a common theme.”

Table S1. Characteristics of participants in the brainstorming and rating phases of a concept mapping exercise to identify obstacles to IPM adoption in developing countries

Descriptor/category	Brainstorming	Rating
Region		
Latin America and Caribbean	129	73
Sub-Saharan Africa	97	26
High-income countries	84	41
South Asia	50	8
East Asia and Pacific	36	9
Middle East and North Africa	14	5
Europe and Central Asia	3	1
Sex		
Male	312	109
Female	101	54
Education		
PhD	213	81
Masters	144	58
Undergraduate	41	22
Other	15	2
Sector		
Academia	125	67
Development, nonprofit	111	38
Government	100	35
Private, for-profit	45	10
Other	21	9
Farmer	11	4
Expertise		
Entomology	—	61
Agronomy	—	46
Plant pathology	—	22
Extension	—	13
Other	—	10
Economics	—	7
Sociology	—	3
Anthropology	—	1
IPM experience in developing country		
>10 y	233	92
1–5 y	84	29
6–10 y	71	22
None	25	20

Table S2. Statistical differences in ratings by region for 51 obstacles to IPM adoption in developing countries

Code*	Importance					Difficulty				
	HIC	Asia	LAC	SSA	<i>P</i> value [†]	HIC	Asia	LAC	SSA	<i>P</i> value [†]
OUT-9	3.78	3.24	3.22	3.73	0.064	3.34	2.53	2.51	3.12	0.001
OUT-5	3.78	3.29	3.47	3.27	0.228	3.41	2.71	2.51	2.65	0.000
OUT-2	3.76	3.06	3.23	3.54	0.363	3.00	2.65	2.74	2.62	0.730
INC-2	3.68	3.41	3.48	3.85	0.821	3.10	3.00	3.08	3.27	0.874
PST-1	3.66	3.76	3.70	3.38	0.657	2.80	3.18	3.56	2.73	0.001
OUT-12	3.66	2.71	3.05	3.58	0.073	3.15	2.65	2.47	2.96	0.005
OUT-1	3.61	3.29	3.29	3.62	0.310	2.93	2.65	2.42	2.65	0.224
PST-2	3.49	3.35	3.51	3.54	0.840	3.37	2.76	3.37	2.92	0.132
PST-4	3.49	3.00	3.70	3.19	0.012	2.98	3.00	3.32	2.92	0.047
RCH-10	3.44	3.06	3.16	3.27	0.320	3.15	2.12	2.38	2.35	0.000
RCH-7	3.44	2.65	3.00	3.62	0.080	3.10	2.47	2.59	2.62	0.241
IPM-1	3.44	2.94	3.44	3.12	0.301	3.00	2.94	3.03	2.69	0.783
OUT-10	3.37	2.47	2.82	2.88	0.097	2.85	2.06	2.10	2.38	0.006
RCH-1	3.37	2.82	3.23	3.50	0.151	2.41	2.18	2.59	2.04	0.211
INC-1	3.34	3.65	3.63	3.58	0.458	2.54	3.53	2.97	2.65	0.007
OUT-6	3.32	2.88	3.40	3.19	0.147	2.61	2.12	2.42	2.12	0.105
IPM-9	3.32	3.82	3.55	3.15	0.106	3.20	3.35	3.05	2.73	0.306
OUT-7	3.29	2.41	3.19	3.27	0.203	2.76	1.94	2.37	2.19	0.053
RCH-11	3.29	2.29	3.22	3.12	0.018	2.66	2.00	2.22	2.15	0.074
IPM-10	3.29	2.94	2.96	3.42	0.147	2.78	2.35	2.40	2.85	0.224
OUT-8	3.27	2.53	2.92	2.77	0.399	2.51	2.18	2.21	2.19	0.583
RCH-12	3.22	2.47	2.95	3.31	0.062	3.00	2.41	2.36	2.81	0.018
OUT-11	3.20	3.06	3.33	3.31	0.855	2.61	2.24	2.47	2.54	0.834
IPM-12	3.20	3.00	3.08	3.23	0.837	3.12	2.76	2.95	3.08	0.664
PST-3	3.17	3.12	3.71	3.00	0.005	2.80	3.06	3.29	2.50	0.006
IPM-6	3.15	3.35	3.48	2.92	0.213	2.56	3.00	3.18	2.50	0.018
FMR-3	3.15	3.06	3.52	3.35	0.044	2.83	3.00	3.42	3.08	0.024
IPM-3	3.12	3.41	4.05	3.54	0.000	2.83	2.71	3.11	2.73	0.085
IPM-11	3.12	2.82	2.93	3.35	0.624	2.78	2.65	2.42	2.65	0.850
RCH-2	3.12	3.18	3.26	3.12	0.666	2.46	2.41	2.42	2.31	0.877
FMR-1	3.10	2.53	2.81	3.12	0.157	2.85	2.88	2.92	2.96	0.848
RCH-5	3.07	2.53	2.96	3.27	0.123	2.49	1.71	2.19	2.19	0.047
RCH-9	3.07	2.24	2.84	2.69	0.101	2.02	1.82	2.27	2.04	0.392
IPM-2	3.07	2.88	2.93	3.04	0.826	2.83	2.76	2.45	2.54	0.208
IPM-13	3.05	3.00	3.32	2.65	0.194	2.85	2.88	3.08	2.54	0.234
INC-3	3.05	3.00	3.48	2.88	0.049	2.63	2.76	2.96	2.62	0.045
OUT-13	3.02	2.24	2.89	3.23	0.046	2.71	1.82	2.19	2.54	0.015
OUT-3	3.02	2.53	2.92	3.12	0.441	2.56	1.76	2.15	2.19	0.020
RCH-4	3.02	3.12	3.26	3.15	0.576	2.32	2.47	2.40	2.31	0.733
IPM-4	3.00	2.29	2.66	2.85	0.075	2.76	2.12	2.68	2.50	0.232
IPM-5	3.00	3.71	3.49	3.42	0.011	2.85	3.18	3.10	2.65	0.369
FMR-4	2.98	3.00	3.27	3.00	0.453	2.61	2.18	2.47	2.46	0.386
FMR-2	2.93	3.24	3.44	2.65	0.028	2.49	3.00	3.00	2.50	0.028
IPM-7	2.88	3.06	3.07	3.08	0.978	2.20	2.71	2.78	2.65	0.139
RCH-8	2.88	2.65	2.85	2.92	0.942	2.61	2.47	2.32	2.35	0.627
RCH-6	2.85	2.82	2.96	2.62	0.770	2.51	1.94	2.10	2.12	0.024
RCH-13	2.85	2.06	2.48	2.73	0.115	2.61	2.29	2.45	2.08	0.263
OUT-4	2.78	1.76	2.33	2.42	0.024	2.10	1.94	1.92	2.04	0.820
IPM-8	2.73	2.24	2.74	3.00	0.147	2.54	2.06	2.63	2.12	0.030
RCH-3	2.66	3.29	3.07	3.15	0.195	2.34	2.59	2.11	2.08	0.172
OUT-14	2.51	2.35	2.89	3.08	0.128	2.63	2.24	2.47	2.85	0.243

HIC, high-income countries; LAC, Latin America and the Caribbean; SSA, sub-Saharan Africa.

*The statistical significance of the importance and difficulty of an obstacle according to rating by region was derived through multiple regression analyses using sex, education and field of expertise as covariates. Larger *P* values suggest greater agreement across regions.

[†]The letter coding describes six obstacle themes: FMR, farmer weaknesses; INC, weak adoption incentives; IPM, IPM weaknesses; OUT, outreach weaknesses; PST, pesticide industry interference; RCH, research weaknesses. Numbers refer to specific obstacles.