PROCESSES FOR KNOWLEDGE TRANSFER AND RELATED EFFICIENCIES: A CASE OF THE CocoaSoils PROGRAM

Rich Kofi Kofituo1, Richard Asare1, Jean Paul Nlend-Nkott2 ,Theresa Ampadu-Boakye3

1International Institute of Tropical Agriculture (IITA), Accra, Ghana

2International Institute of Tropical Agriculture (IITA), Abidjan- Cote dívoire

3International Institute of Tropical Agriculture (IITA), Nairobi, Kenya

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CocoaSoils Objectives

CocoaSoils: Sustainable intensification of cocoa production through the development and dissemination of Integrated Soil Fertility Management options

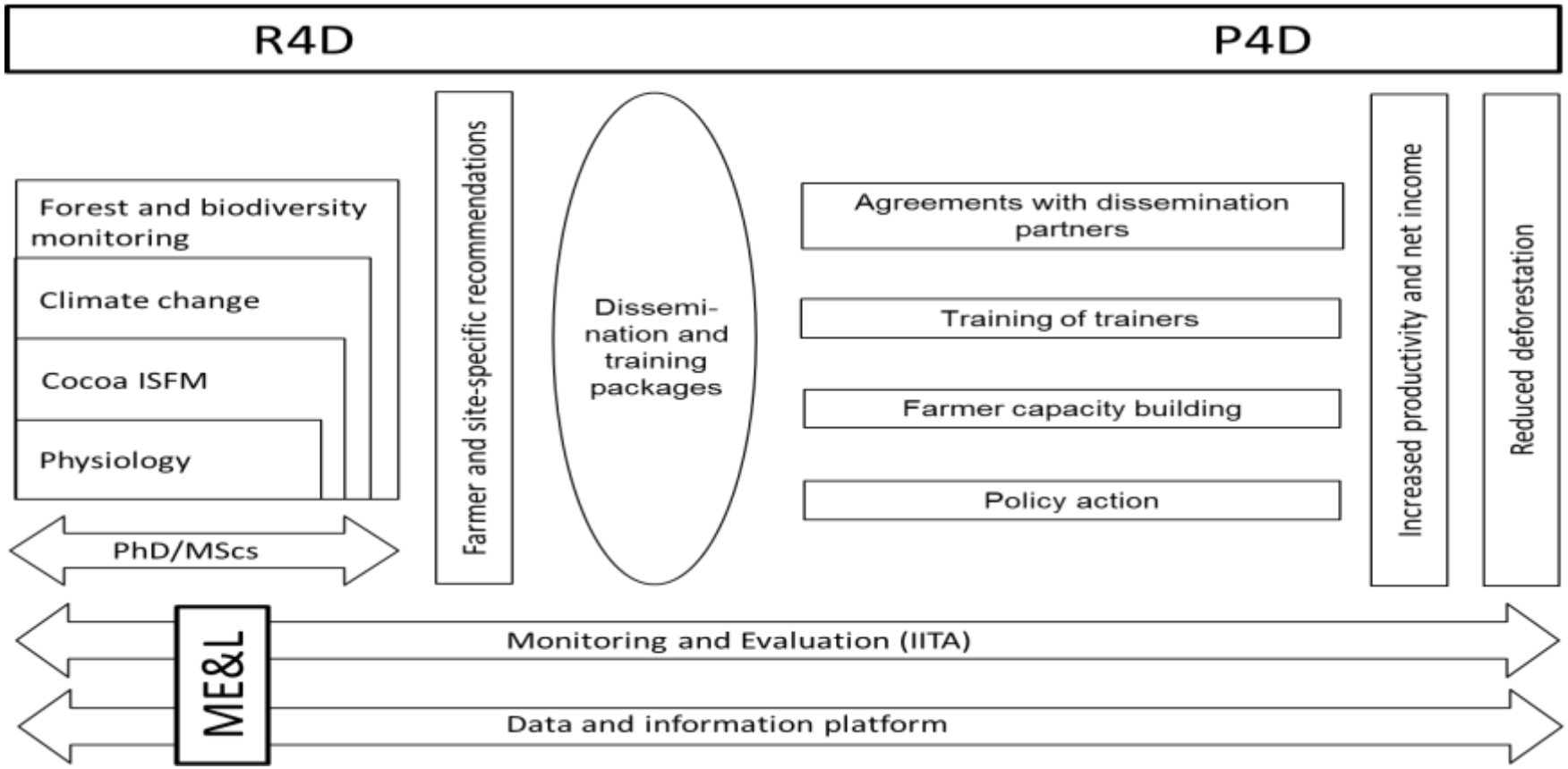
Overall objective

A sustainable cocoa supply sector with increased productivity of cocoa farms (**30%**), efficient use of agricultural inputs and improved rural livelihoods (**90,000**) while avoiding deforestation

Target groups

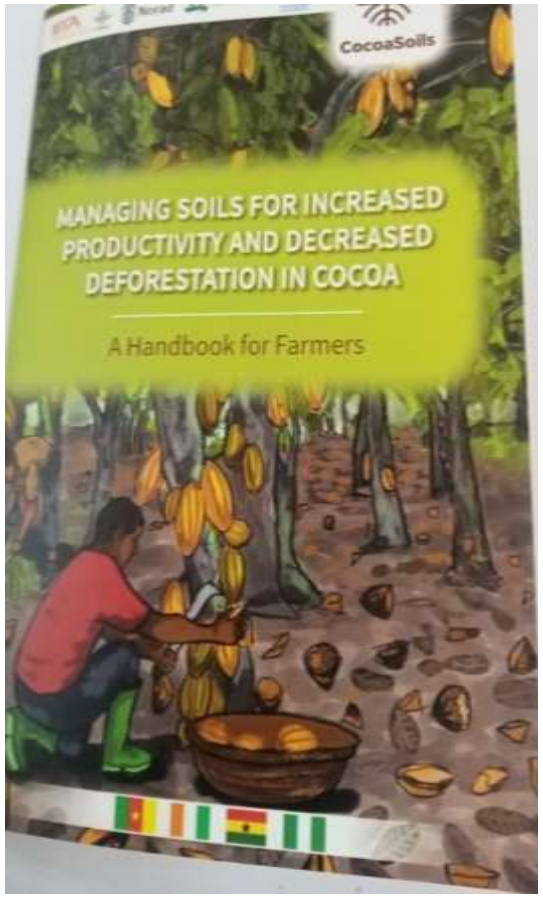
1. Smallholder cocoa farmers will benefit through enhanced cocoa productivity, better income, and improved livelihoods
2. National research and extension agents will have necessary skills and state-of-the art knowledge and tools
3. Policymakers will be empowered to support the smallholder cocoa sector while protecting the environment
4. Society as a whole will reap the rewards of avoided deforestation

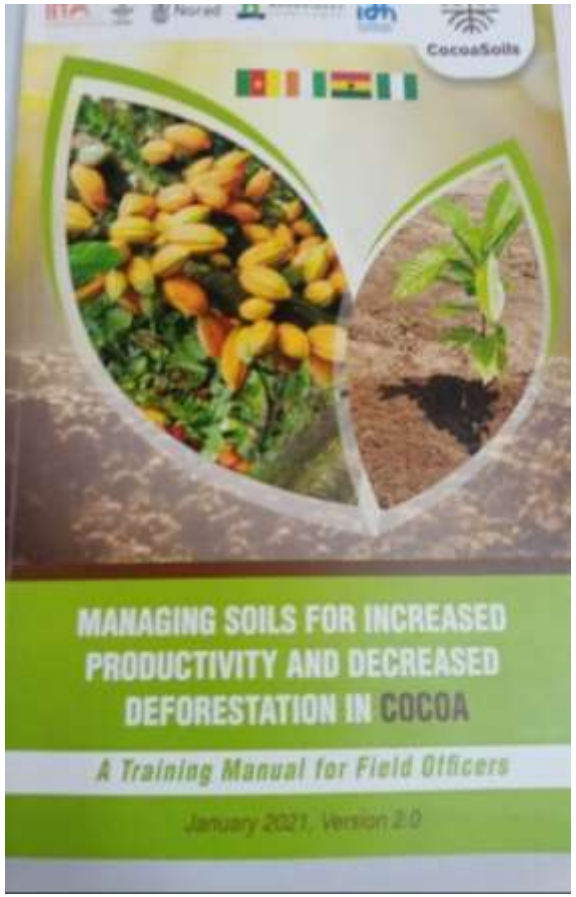
Program approach



Schematic overview of the R4D, P4D, and ME&L components of this initiative. The proposed R4D, P4D, and ME&L outputs and their interlinkages are presented

Manuals for partner extension-led scaling





Manual content

- Productivity and Deforestation
- GAP to increase productivity
- Pruning for Improved Soil Fertility and Efficient Use of Soil Nutrients
- Weeding for Improved Soil Fertility and Efficient Use of Soil Nutrients
- Pesticides Application (handling and applying)
- Planting Shade Trees to Improve Yields and Preserve Soils
- Soil Fertility Management (compost, organic fertilizer)
- Mineral fertilizer application

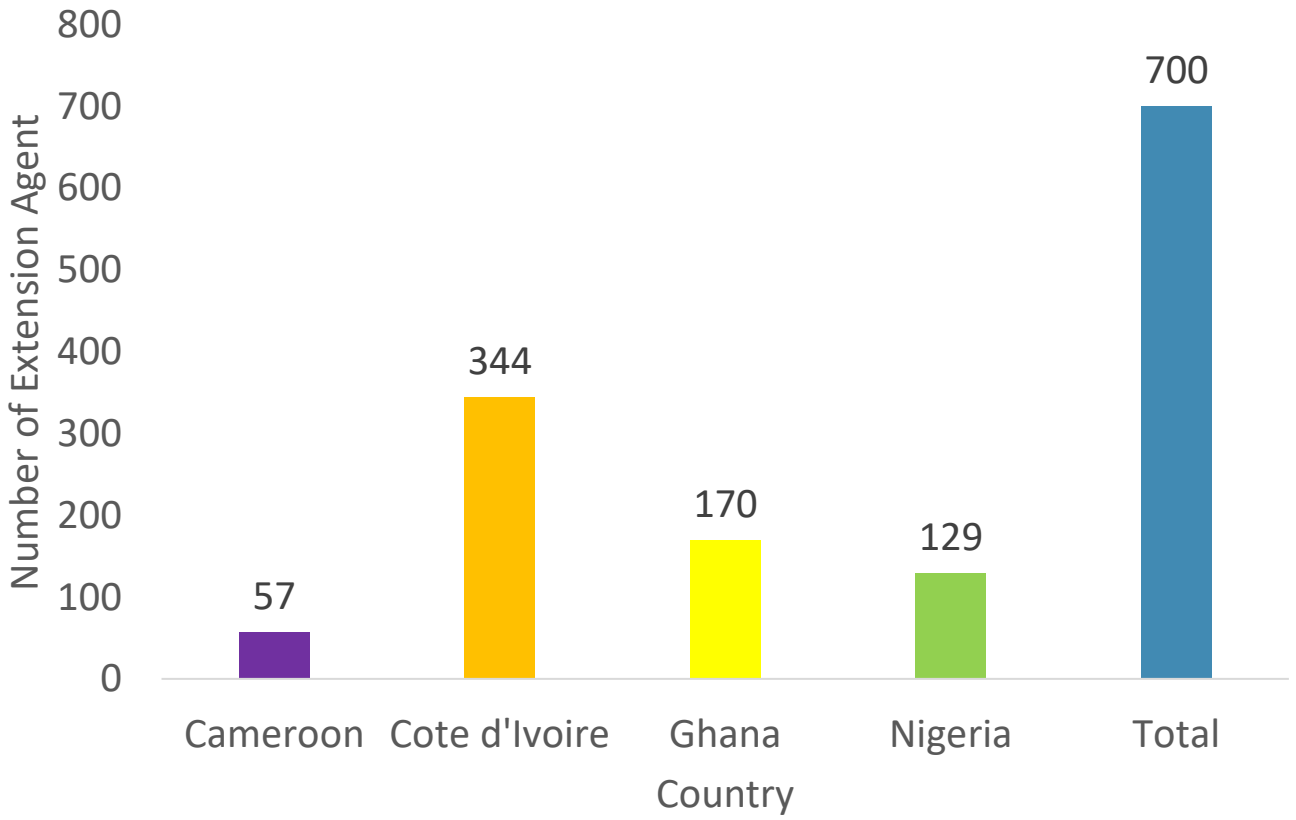
ISFM technology dissemination channels

CocoaSoils

Extension Officer led

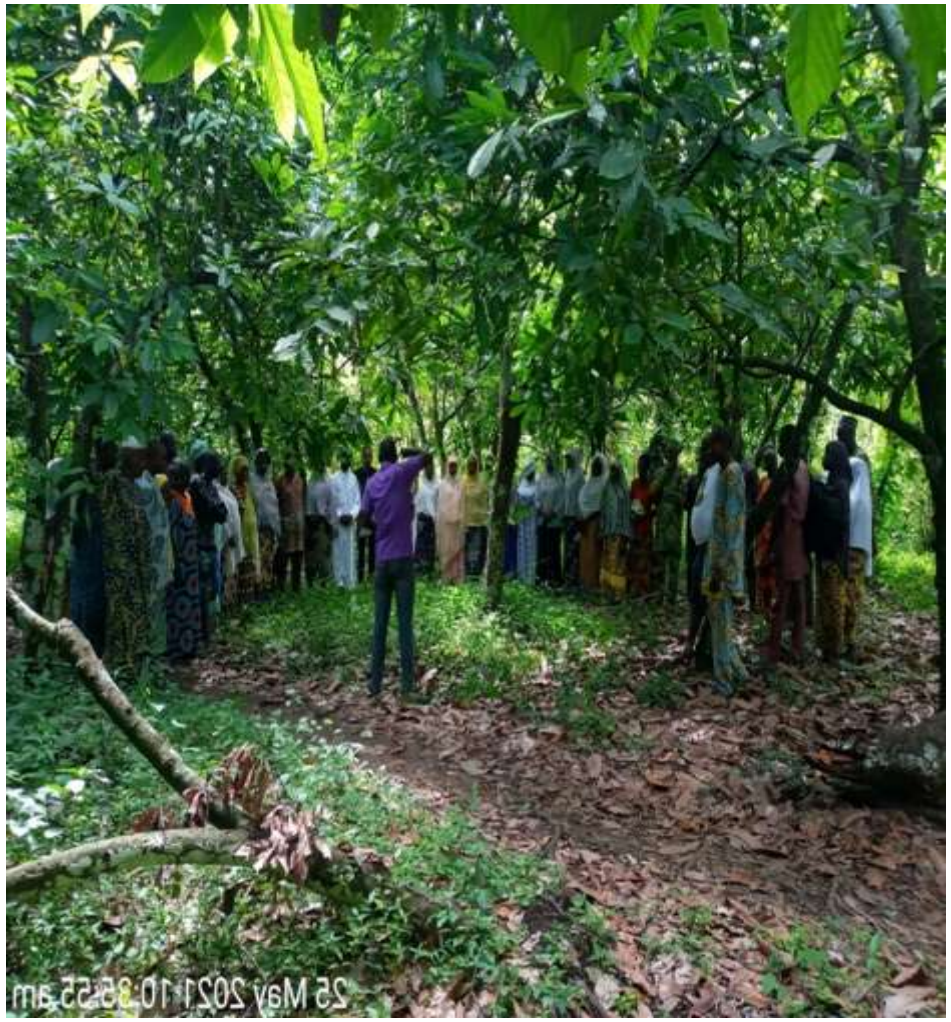
Digital Platform led

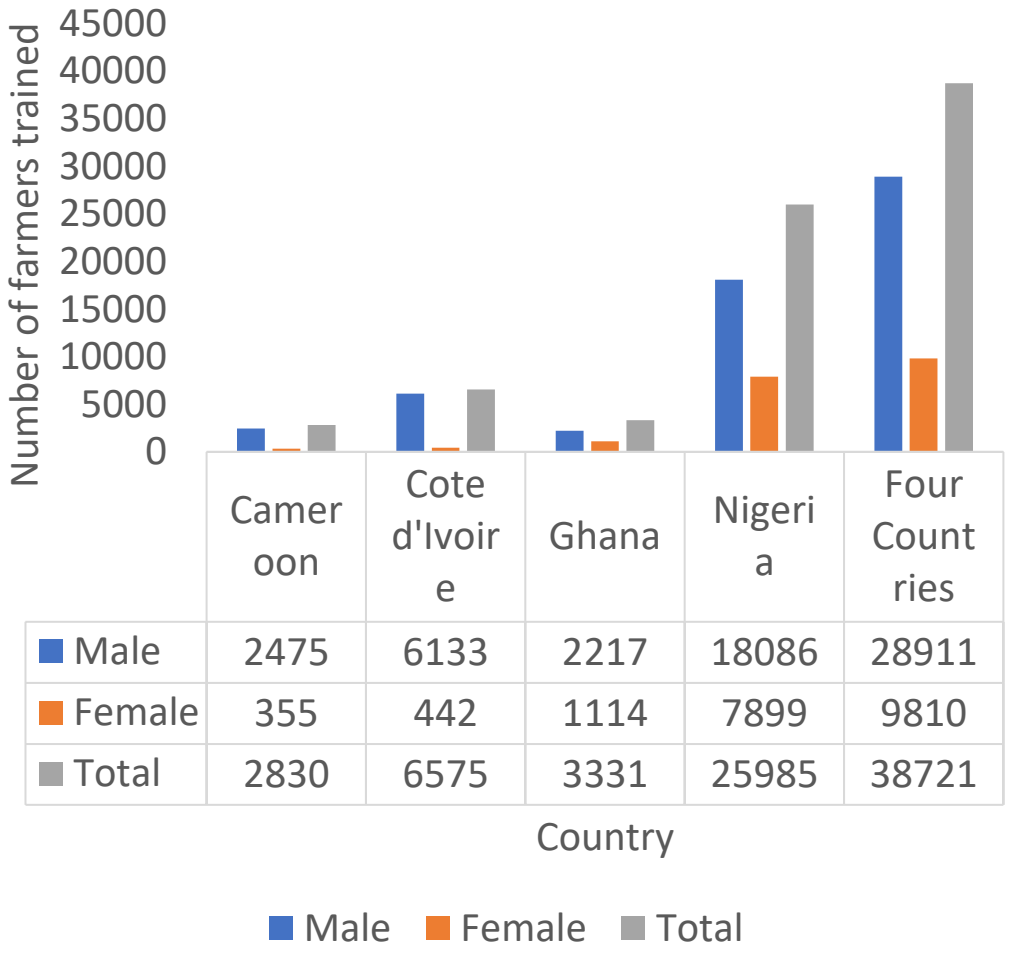
Extension Agent (EA) training



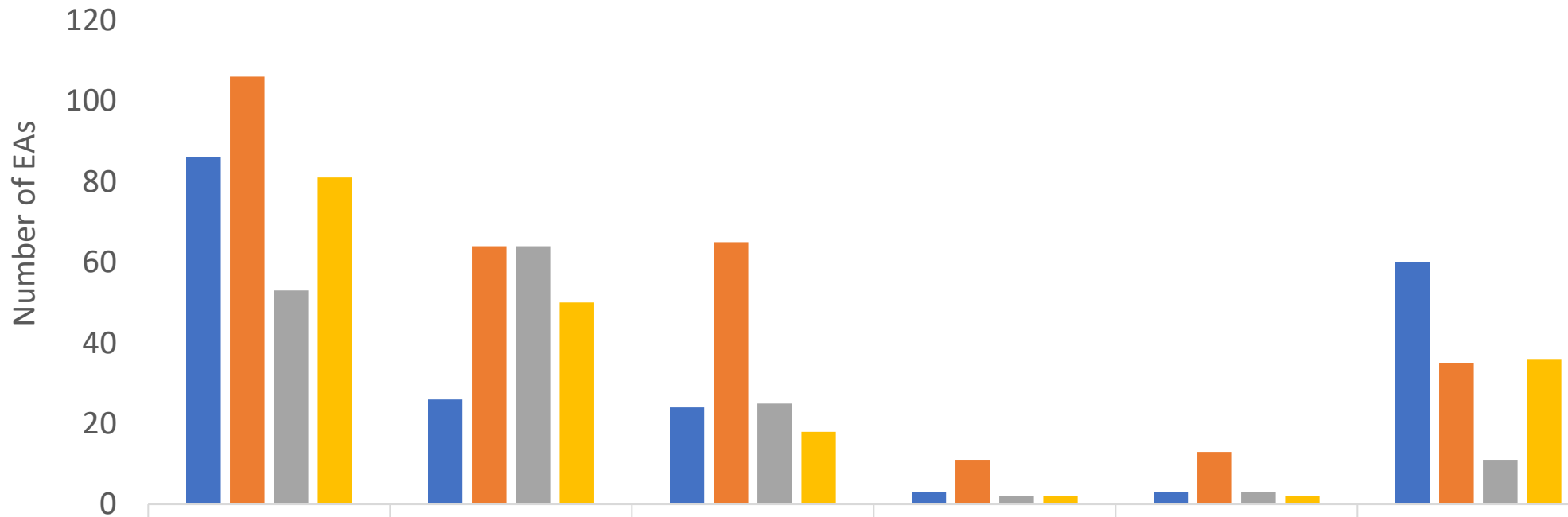
Number of Farmers trained

Extension Officer led





Dissemination channels used by Extension Officers

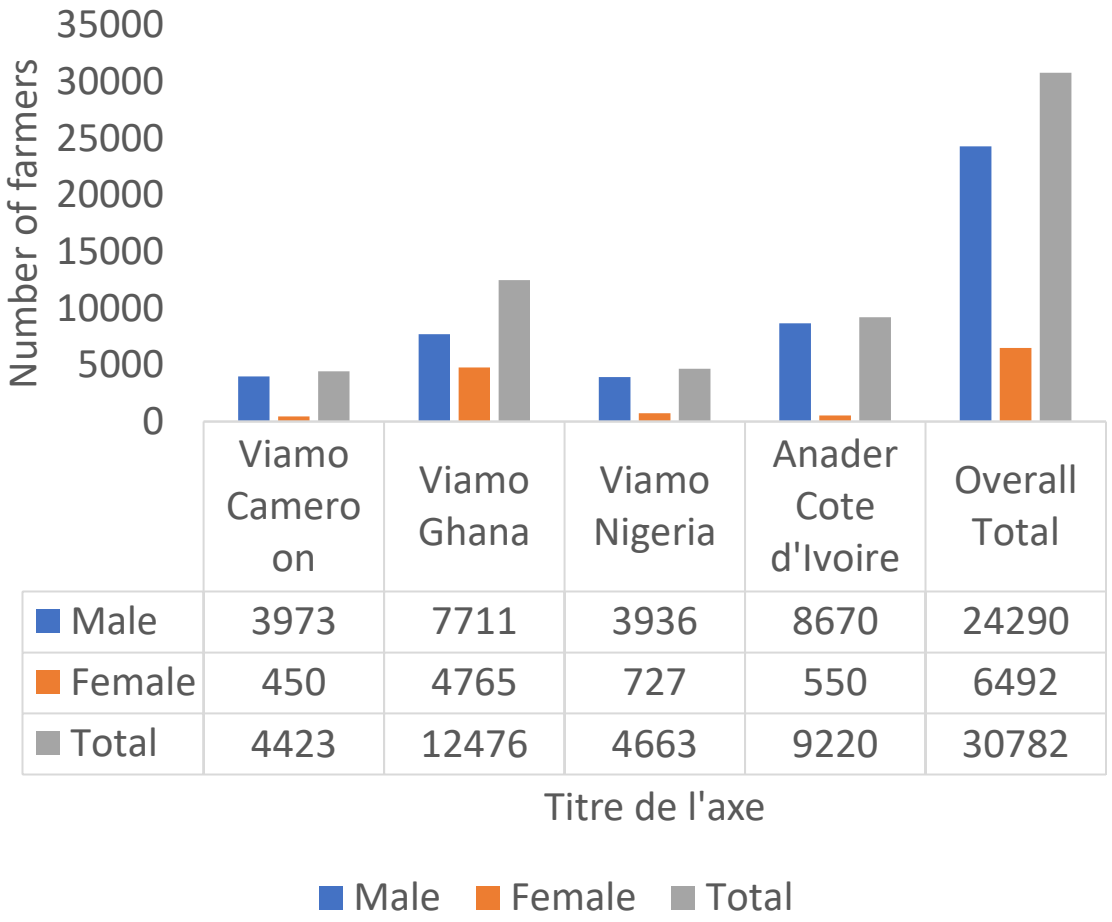


	Training	Demonstration field	Field day	Video show	Agric show	Sensitization event
Cameroon	86	26	24	3	3	60
Cote d'Ivoire	106	64	65	11	13	35
Ghana	53	64	25	2	3	11
Nigeria	81	50	18	2	2	36

Cameroon Cote d'Ivoire Ghana Nigeria

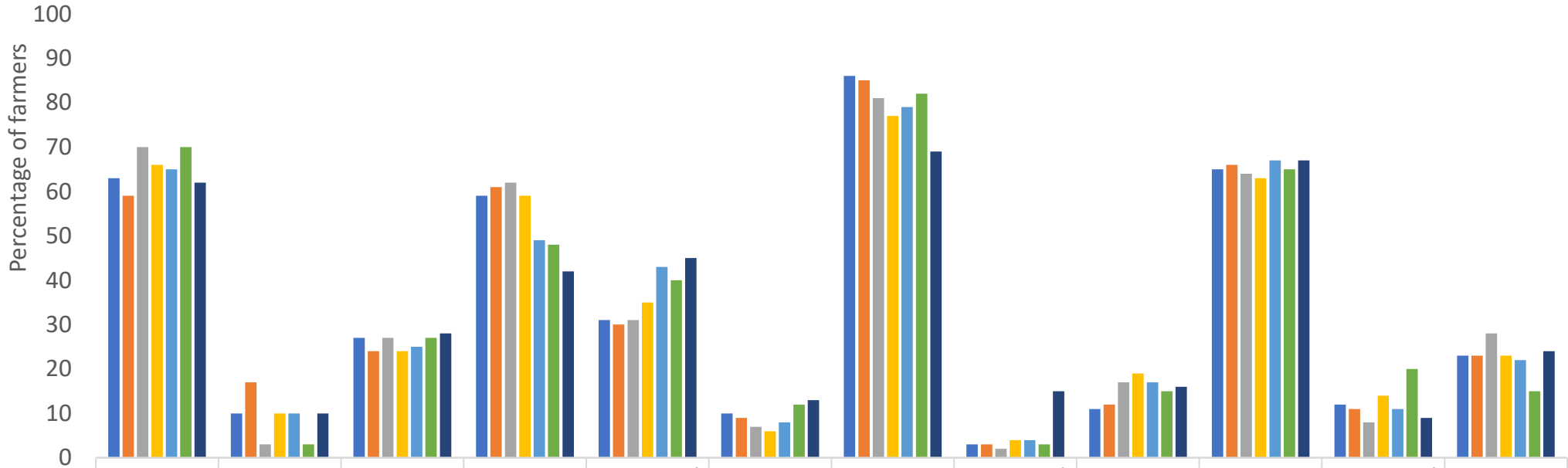
Number of Farmers trained

Digital Platform led



	Viamo Cameroon	Viamo Ghana	Viamo Nigeria	Anader Cote d'Ivoire	Overall Total
Male	3973	7711	3936	8670	24290
Female	450	4765	727	550	6492
Total	4423	12476	4663	9220	30782

Dissemination channels used for ISFM practices

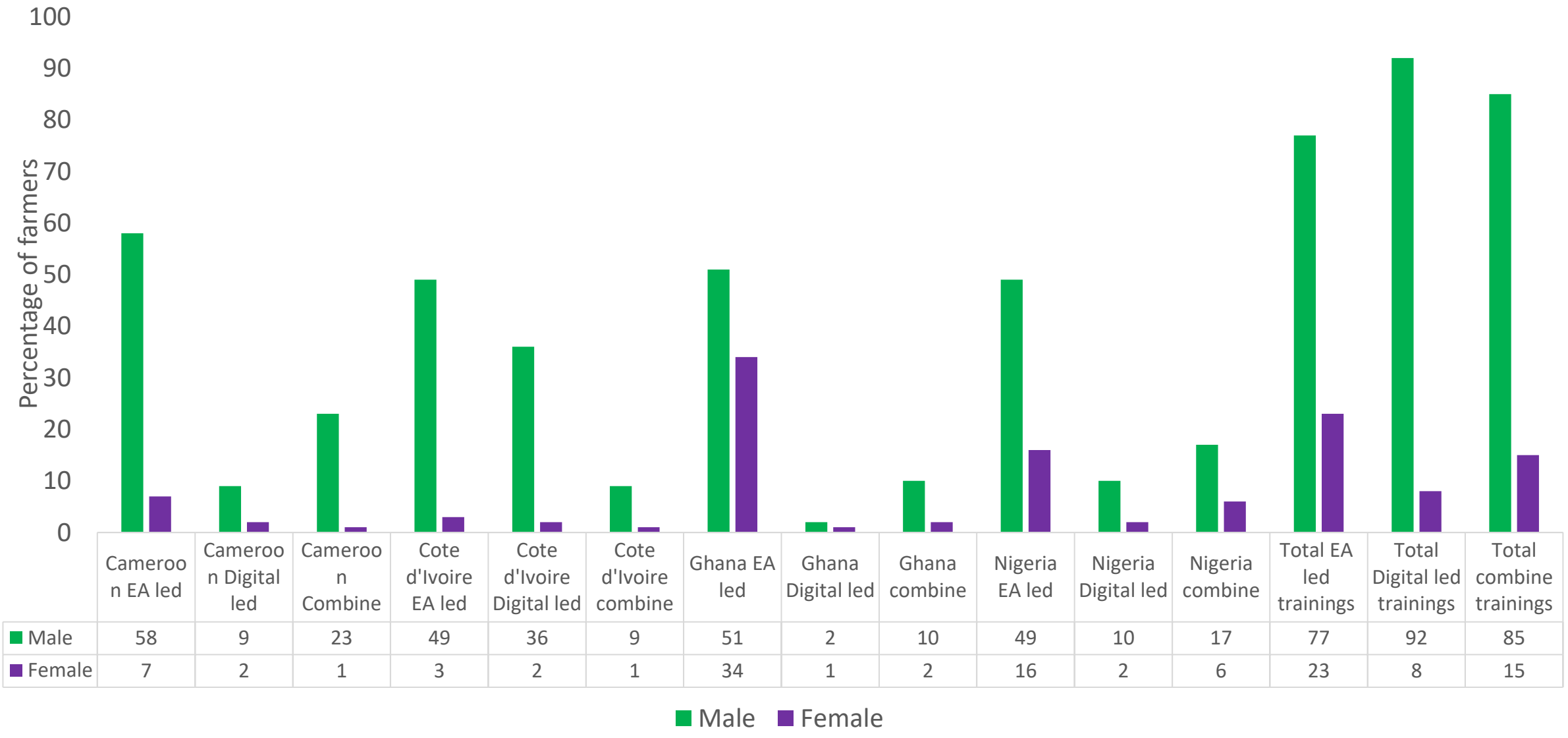


	Cam EA led	Cam Digital led	Cam combine	CDI EA led	CDI Digital led	CDI combine	GH EA led	GH Digital led	GH combine	NIG EA led	NIG Digital led	NIG combine
Mineral Fertilizer	63	10	27	59	31	10	86	3	11	65	12	23
Organic fertilizer	59	17	24	61	30	9	85	3	12	66	11	23
Structural Pruning	70	3	27	62	31	7	81	2	17	64	8	28
Weed Management	66	10	24	59	35	6	77	4	19	63	14	23
Pest Management	65	10	25	49	43	8	79	4	17	67	11	22
Sanitary Pruning	70	3	27	48	40	12	82	3	15	65	20	15
Shade mangement	62	10	28	42	45	13	69	15	16	67	9	24

ISFM practices

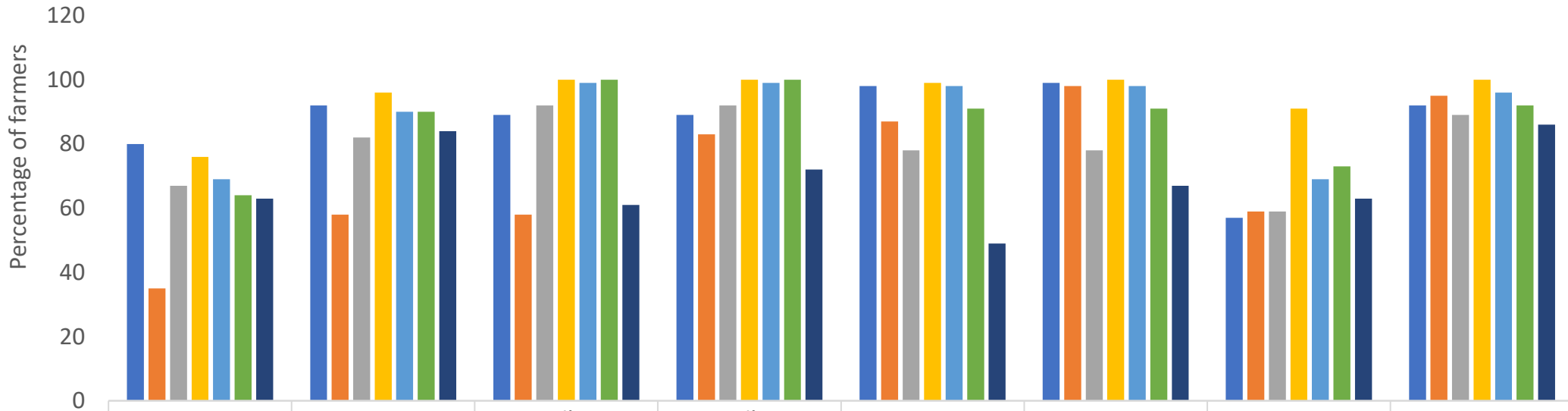
Mineral Fertilizer Organic fertilizer Structural Pruning Weed Management Pest Management Sanitary Pruning Shade mangement

Gender breakdown of dissemination channels used



	Cameroon EA led	Cameroon Digital led	Cameroon Combine	Cote d'Ivoire EA led	Cote d'Ivoire Digital led	Cote d'Ivoire combine	Ghana EA led	Ghana Digital led	Ghana combine	Nigeria EA led	Nigeria Digital led	Nigeria combine	Total EA led trainings	Total Digital led trainings	Total combine trainings
Male	58	9	23	49	36	9	51	2	10	49	10	17	77	92	85
Female	7	2	1	3	2	1	34	1	2	16	2	6	23	8	15

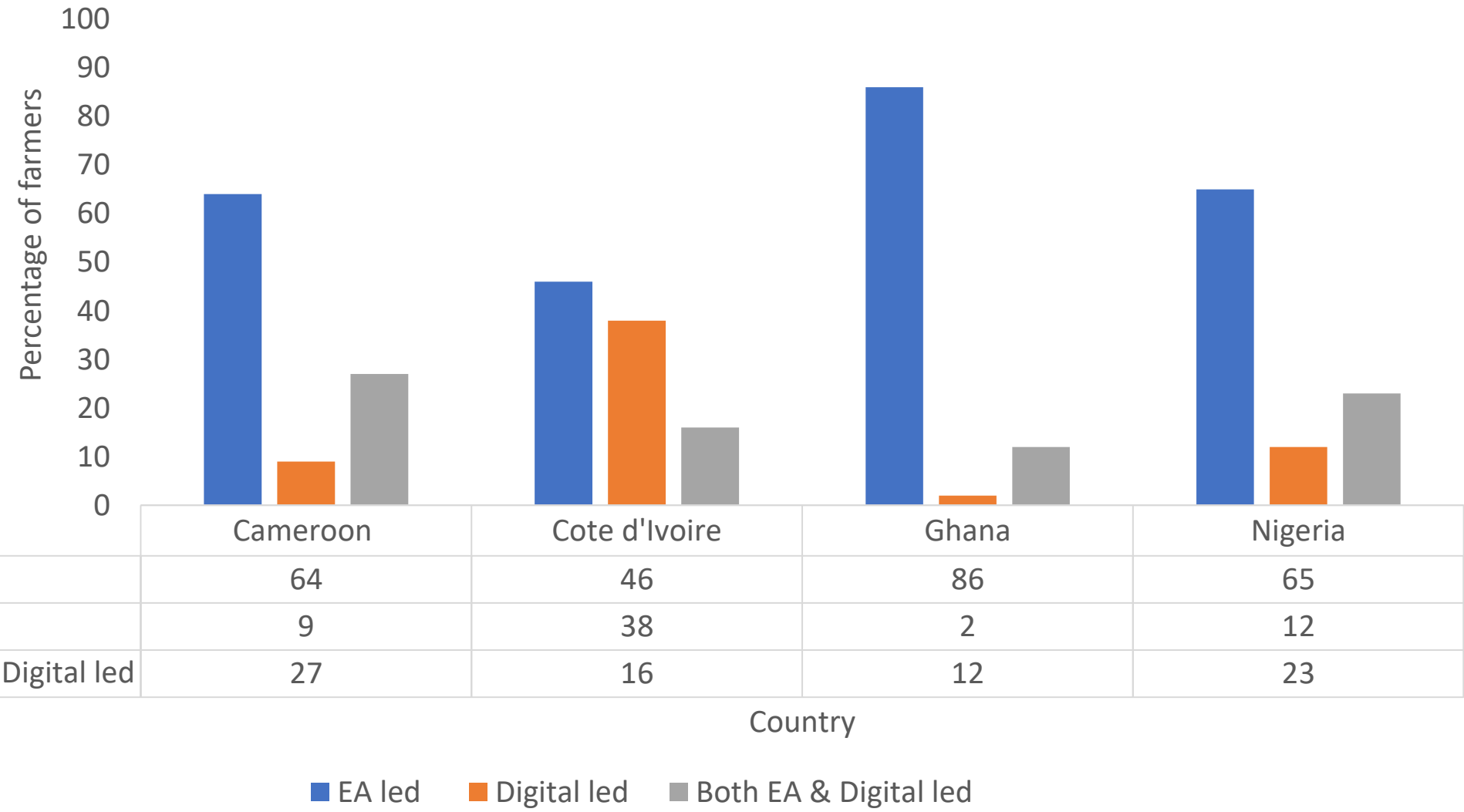
Change in farmer knowledge



	Cameroon Baseline Awareness	Cameroon Endline Awareness	Cote d'Ivoire Baseline Awareness	Cote d'Ivoire Endline Awareness	Ghana Baseline Awareness	Ghana Endline Awareness	Nigeria Baseline Awareness	Nigeria Endline Awareness
Mineral fertilizer	80	92	89	89	98	99	57	92
Organic fertilizer	35	58	58	83	87	98	59	95
Structural pruning	67	82	92	92	78	78	59	89
Weed management	76	96	100	100	99	100	91	100
Pest management	69	90	99	99	98	98	69	96
Sanitary pruning	64	90	100	100	91	91	73	92
Shade management	63	84	61	72	49	67	63	86

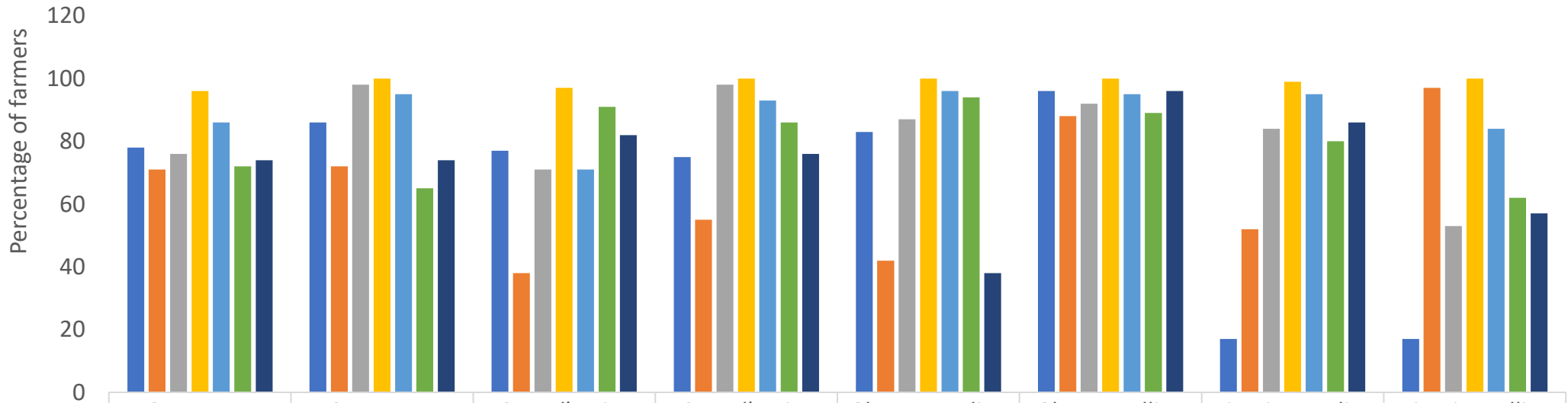
Mineral fertilizer Organic fertilizer Structural pruning Weed management Pest management Sanitary pruning Shade management

Dissemination channel contribution to uptake



	Cameroon	Cote d'Ivoire	Ghana	Nigeria
EA led	64	46	86	65
Digital led	9	38	2	12
Both EA & Digital led	27	16	12	23

Change in farmer practice



	Cameroon Baseline Use	Cameroon Endline Use	Cote d'Ivoire Baseline Use	Cote d'Ivoire Endline Use	Ghana Baseline Use	Ghana Endline Use	Nigeria Baseline Use	Nigeria Endline Use
Mineral fertilizer	78	86	77	75	83	96	17	17
Organic fertilizer	71	72	38	55	42	88	52	97
Structural pruning	76	98	71	98	87	92	84	53
Weed management	96	100	97	100	100	100	99	100
Pest management	86	95	71	93	96	95	95	84
Sanitary pruning	72	65	91	86	94	89	80	62
Shade management	74	74	82	76	38	96	86	57

ISFM practices

Mineral fertilizer Organic fertilizer Structural pruning Weed management Pest management Sanitary pruning Shade management

Conclusion

- EA led training helped to reach out to both male and female cocoa farmers, however a combination of EA and digital led channels of dissemination will help reach out to more farmers effectively
- There is increased knowledge in mineral fertilizer application, shade management, shade management, pest management among cocoa farmers in Cameroon, Cote d'Ivoire, Ghana and Nigeria respectively.
- EA led training contributes most to uptake in all countries however in Cote d'Ivoire, digital dissemination by ANADER is relatively significant in contributing to uptake
- There is an increased change in mineral fertilizer usage, practice of structural pruning, shade management, organic fertilizer application in Cameroon, Cote d'Ivoire, Ghana and Nigeria respectively
- Efficient ISFM practices dissemination via EA and digital led channels will contribute positively to increased productivity and an increase in income and welfare of cocoa farmers.

CocoaSoils

Partnership

Project Lead/Donor	IITA CGIAR, idh, WAGENINGEN UNIVERSITY & RESEARCH, Norad
National Research Institutes	
Intl Research Centres	UN environment programme WCMC, IITA CGIAR, World Agroforestry Centre, WAGENINGEN UNIVERSITY & RESEARCH, CIAT
Private partners	Nestlé, Cargill, BARRY CALLEBAUT, CLIMATE42, Olam, YARA, ICL, S&D SUCDEN, Mars, OLATUNDE INT'L LTD., Mondelēz International, ETG

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CONTACT

Richard Asare
r.asare@cgiar.org

Ken Giller
Ken.giller@wur.nl

Mark De Waard
dewaard@idhtrade.org

visit our website: www.cocoasoils.org