GENDER SPECIFIC FACTORS ASSOCIATED WITH HAZARDS OF PESTICIDE USAGE AMONG COCOA FARMERS IN NIGERIA

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OVERVIEW

The study assessed the gender specific factors associated with health and environmental hazards of pesticide usage among cocoa farmers in Ekiti State, Nigeria a region known for predominance in cocoa production. It specifically described the personal characteristics of male and female cocoa farmers and isolate factors associated with health and environmental hazards of pesticide usage in cocoa production. Varimax rotation pattern was used to isolate six factors, each associated with health and environmental hazards for male and female cocoa farmers in the study area. Farmers and extension agents' awareness of the gender specific factors to understanding hidden gender issues associated with hazards of pesticide usage among cocoa farmers was recommended. Hence, this is to ensure appropriate pesticide usage and to ensure environmental sustainability.

INTRODUCTION

Cocoa is a major tree crop in Nigeria and has contributed tremendously to her economy. Cocoa production in Nigeria is plagued with diverse problems. Major problems of cocoa production are pest and diseases, which have globally reduced the quality and quantity of output in cocoa production. Majority of the farmers use pesticide in controlling these problems. Hazardous effects of pesticide on users' health and environment have been documented in literature. However, gender disaggregated empirical evidence about the specific factors associated with the health and environmental hazards of pesticide usage is scanty hence, this study.

METHODOLOGY

- The study was carried out purposively in Ekiti State, Nigeria because of availability and high intensity of cocoa farming activities. A multistage sampling procedure was used to select respondents for the study.
- At the first stage, five Local Government Areas (LGAs) with high cocoa production were purposively selected.
- At the second stage, three communities with high cocoa production were purposively selected from each LGAs to make a total of fifteen communities.
- At the third stage, eight male and eight female cocoa farmers were selected from each of the communities through accidental sampling technique to make a total of 240 respondents for the study.
- Structured interview schedule was used for collection of quantitative data while Focus Group Discussion was used to collect qualitative data.
- Primary data were analyzed using descriptive statistics and factor analysis was used to isolate crucial gender specific factors associated with hazards of pesticide usage.

RESULTS

COCOA FARMERS PERSONAL CHARACTERISTICS

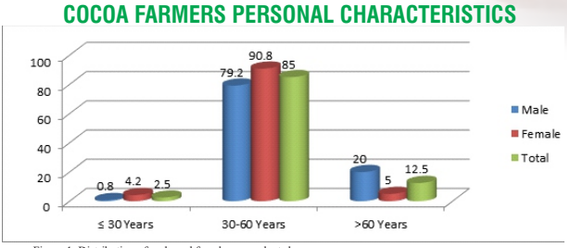

Figure 1: Distribution of male and female respondents by age.

Mean= MCF (52.45) FCF (45.23) Total (48.85)
Standard deviation= MCF (9.82). FCF (8.49) Total (9.84)
Source: Field survey, (2015).

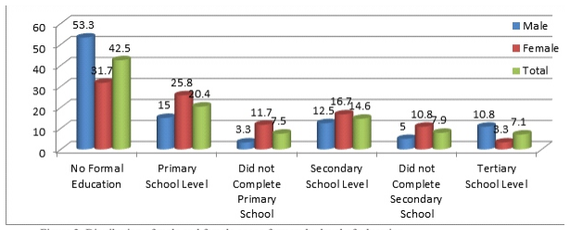

Figure 2: Distribution of male and female cocoa farmers by level of education

Table 1: Mean scores of respondents on frequency of pesticides hazards experienced.

Hazards	Mean	Male SD	(n=120) Rank	Hazards	Mean	Female SD	(n=120) Rank
Health Hazards				**Health Hazards**			
Tearing and redness of eyes	2.09	1.01	1st	Tearing and redness of eyes	1.34	1.19	1st
Sneezing	1.41	1.17	2nd	Sneezing	1.04	1.06	2nd
Body pain	1.20	1.00	3rd	Body itching	0.65	1.03	3rd
Body itching	1.10	1.02	4th	Headache	0.54	0.81	4th
Skin rash	1.03	1.16	5th	Body pain	0.49	0.85	5th
Excessive sweating	0.83	1.13	6th	Stomach cramps	0.45	0.81	6th
Headache	0.79	0.97	7th	Skin rash	0.42	0.75	7th
Breathing difficulty	0.77	1.08	8th	Breathing difficulty	0.41	0.78	8th
Stomach cramps	0.74	1.04	9th	Excessive sweating	0.37	0.71	9th
Cough	0.43	0.77	10th	Cough	0.25	0.66	10th
				Vomiting	0.11	0.37	11th
Environmental Hazards				**Environmental Hazards**			
Contribute to air pollution	1.65	0.82	1st	Harming beneficial insects	1.51	1.02	1st
Pollute stream and rivers	1.45	0.88	2nd	Contribute to air pollution	1.47	0.96	2nd
Harming beneficial insects	1.44	1.44	3rd	Pollute stream and rivers	1.13	0.96	3rd
Decrease soil biodiversity	1.18	0.93	4th	Decrease soil biodiversity	1.02	1.01	4th
Pesticides inhibits plant growth	1.12	1.15	5th	Harming non target organisms	0.86	0.96	5th
Harming non target organisms	1.06	0.86	6th	Pesticides inhibits plant growth	0.80	0.99	6th
Destroy soil quality	0.98	0.97	7th	Destroy soil quality	0.75	0.82	7th
Contaminate marine ecosystem	0.95	1.00	8th	Contaminate marine ecosystem	0.43	0.77	8th
Affects animal reproduction	0.51	0.85	9th	Affects animal reproduction	0.34	0.72	9th

Source: *Field survey, 2015* SD= *Standard Deviation*

Table 2: Factors name, Eigen values and percentage variation accounted for by each factor associated with health and environmental hazards for male cocoa farmers.

Factors	Name	Eigen value	%variance	Cumm.%var
1	Information source factor	2.379	13.96	13.96
2	Extension contact factor	2.094	12.32	26.31
3	Experience factor	1.854	10.90	37.21
4	Knowledge – Pesticides factor	1.717	10.10	47.32
5	Group membership factor	1.697	9.98	57.29
6	Family factor	1.649	9.69	66.99
7	Others		33.05	100.00

Table 3 Factors name, Eigen values and percentage variation accounted for by each factor associated with health and environmental hazards for female cocoa farmers.

Factors	Name	Eigen value	%variance	Cumm.%var
1	Knowledge – experience factor	2.666	15.69	15.69
2	Information source factor	2.226	13.09	28.78
3	Group membership factor	1.911	11.24	40.02
4	Extension contact factor	1.742	10.25	50.27
5	Family factor	1.517	8.92	59.19
6	Pesticide usage factor	1.443	8.49	67.68
7	Others		32.32	100.00

CONCLUSION

The study gave a broad understanding of the factors associated with hazards of pesticide usage among cocoa farmers in Ekiti State Nigeria. Six factors each were isolated for male and female cocoa farmers in the study area. Tearing and redness of the eyes ranked first in health hazards among male and female cocoa farmers, while contribution to air pollution ranked first in environmental hazards among male cocoa farmers and harming beneficial insects ranked first for female cocoa farmers. It was concluded that knowledge and experience play a major role for female cocoa farmers and information source for male cocoa farmers in vulnerability to pesticide hazards.