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Impacts of Gender
Mainstreaming Interventions
on Women's and Youth's
Empowerment in Burkina-Faso

Authors: Djalal Ademonla Arinloye^{1*}, Sita Zougouri²; Jean-Marie Zongo², Sidy Boly¹, Joachim Binam¹, Ann Degrande², Patrice Savadogo¹, Jules Bayala¹ & Antoine Kalinganire¹

¹ World Agroforestry Centre West and Central Africa (ICRAF-WCA) Sahel Node Office, BP E5118, Bamako, Mali

² University of Ouagadougou– Burkina Faso, Department of sociology, 06 BP 10516 Ouagadougou 06, Burkina Faso

¹ World Agroforestry Centre, West and Central Africa (ICRAF-WCA) Regional Office, P.O. Box 16317, Yaoundé, Cameroon

* Corresponding author: A.Arinloye@cgiar.org

Contents

Contents	1
List of abbreviations	2
List of tables	2
List of graphs.....	3
I. Introduction.....	4
I. Research Questions	4
II. Background.....	5
2.1 Key interventions in West African Sahel Dry Savannas Zones (WAS&DS)	5
2.2 WEAI’s five domains of empowerment	5
Production	6
Resources.....	6
Income	6
Leadership.....	6
Time	7
2.3 Gender Parity	7
2.4 Study sites	7
2.5 Sampling.....	8
2.6 Instruments and data collection	11
2.7 Data analysis	11
III. Findings.....	12
3.1 General characteristics of interviewed actors.....	12
3.2 Women Empowerment in Agricultural Domains: key results and Analysis.....	14
3.3 Correlation with others measures	25
3.4 The Five Domains of Empowerment (5DE).....	26
3.5 Computing WEAI by zone	28
IV. Conclusion.....	32
References	33

List of abbreviations

5DE	: Five Domains of Empowerment
A-WEAI	: Abbreviated Women Empowerment in Agriculture Index
CGIAR	: Consultative Group for International Agricultural Research
CPAVI	: Centre de Promotion de l'Aviculture Villageoise
CRP	: CGIAR Research Program
CRP-DS	: CGIAR Research Program on Dryland Systems
CVD	: Comité Villageois de Développement
DS	: Dryland Systems
FGD	: Focus group discussion
GPI	: Gender Parity Index
GSO	: Gender Strategy Objective
INSD	: Institut national de la statistique et la démographie
NGOs	: Non-Gouvernemental Organizations
ODK	: Open Data Kit
RGPH	: Recensement Général de la Population et de l'Habitat
VSLA	: Village Savings and Loan Association
WAS&DS	: West African Sahel & Dry Savannas flagship
WE	: Women Empowerment
WEAI	: Women Empowerment in Agriculture Index

List of tables

Table 1 :Table comparing A-WEAI to original WEAI	6
Table 2 : Intervention commune in the region of North	8
Table 3 : Control commune in the region of North.....	9
Table 4: Using of the software to calculate the sample	10
Table 5: Sample size in each zone.....	10
Table 6: Using of software of qualitative data analysis	11
Table 7: Distribution by religion in the different areas	12
Table 8:Distribution by Socio cultural Group in the different areas	12
Table 9:Distribution by Matrimonial status of the household in the different areas	13
Table 10: Distribution by Type of households in the different areas.....	13
Table 11 :Distribution by Reading and writing capacity in the different areas.....	13
Table 12:Property right of the agricultural lands	15
Table 13:Decision to give away agricultural lands.....	15
Table 14:Poultry owner	16
<i>Table 15: Property of mobile phone</i>	<i>16</i>
Table 16:Decision to sell transportation means	17
Table 17:Decision making on food crop farming.....	19
Table 18:Decision making on cash crop farming.....	19
Table 19:Decision making about livestock.....	20
Table 20 :Decision about the use of income of food crop	21
Table 21:Decision about the use of income of cash crop	22
Table 22:Decision making about the income of livestock	22
Table 23:Speaking in public to help decide which infrastructure.....	23
Table 24:Speaking in public to ensure the proper payment of wages for public works or other similar programs.....	23

Table 25:Speaking in public to protest the bad behavior of the authorities or elected officials.....	24
Table 29: Cross tabulation between « can read and write » and into decision making about food crop production.....	25
Table 30:Cross tabulation between writing and reading capacity and input to cash crop production decision making	26
Table 31:Cross tabulation between writing and reading capacity and participation in decision-making regarding livestock production.....	26
Table 32 : 5DE decomposed by dimension and indicator for women.....	27
Table 33:Women in Intervention and control zone.....	28
Table 34: Cross tabulation Age and Empowerment proportion in the intervention zone ..	30

List of graphs

Graph 1 : Map Northern region.	8
Graph 2: Credit or microfinance group (including VSLA)	23
Graph 3:Women daily calendar	25
Graph 4:Proportion of the different domains of empowerment in intervention zone	27

I. Introduction

The aim of the present research is to assess the impacts of gender mainstreaming interventions on women's and youth's empowerment (WE) in the Dryland systems program in the north region of Burkina Faso. The CGIAR Research Program (CRP) on Dryland Systems (DS) uses an integrated systems approach to develop technology, policy, partnerships and institutional innovations to improve the food security and livelihoods of poor and highly vulnerable populations. This program seeks to address rural poverty, Improvement of food security, improvement of nutrition and health, and Sustainable management of natural resources. Through the program, a systematic gender approach is introduced and adopted by all CGIAR centers and key research interventions in order induce changes in the ways men and women are involved in their livelihood strategies, in the control of the resources and in the benefit from this use of resources in a climate change context.

The gender strategy developed believe that the new knowledge, technologies, practices, institutions and policies developed by the CGIAR and partners change the social and economic returns to key productive resources for agriculture (e.g. biodiversity, land, water, forests, livestock and fish, seeds, fertilizers, and machinery). These changes in the returns to productive resources alter the balance of power in gender relations causing change in the ways men and women control these resources and how they benefit from their use. Positive change women's empowerment with improved technology adoption and agricultural intensification. This will help better empower women access to and use of CG innovations and the dissemination and scaling up process. Control over resources is a central concept for the measurement of empowerment: control requires participation in decision-making; it depends on the balance of power among the parties to key resource-management decisions.

The present research is adequately linked to the Gender Strategy Objective 2 (GS02) (Women empowered within households & communities) and GS04 (Policy reforms improved gender equity in access to agricultural resources, e.g. technologies, assets, services and markets) and to the cross-cutting sub-intermediate development outcome on gender and youth (Gender equitable control of productive assets and resources).

This study adds value to the existing research by measuring how women and youth are getting in to empowerment layers (power within, power on, power in) in the 5 different domains

I. Research Questions

The general objective of the research is to assess the impacts of gender mainstreaming interventions on women's and youth's empowerment (WE) in the WAS-DS flagship.

The present gender strategic answers the following pending research questions:

- What are the impact of the gender mainstreaming actions in the DS on women and youth?
 - o Individual leadership and influence in the community?
 - o Group membership participation (either formal or informal and customary groups)?
 - o Decision making within the household and community? (i.e. types of crops to grow for consumption and sale in market, taking crops to the market - or not, livestock raising, time allocation)

- Income generation and allocation
- change of norms (norm part already studied under other studies)
- How to build awareness on the impact of mainstreaming and empowerment on women and youth for a sustainable scaling up and out research outputs?

II. Background

2.1 Key interventions in West African Sahel Dry Savannas Zones (WAS&DS)

The West African Sahel & Dry Savannas flagship has combined research to investment strategies into rural development to build resilient communities in the West African Sahel and Dry Savannas zones. Moving research to outcomes has then used integrated uptake strategies that combines a set of levers to affect change. Diverse and specific levers have been employed in order to offer the best pathways to change. Around ten outcomes for the theory of change have been noted among which Gender and Equity. Gender and Equity is tackled through reducing information, knowledge on institutional, financial, policy and regulatory barriers to securing decision-making and management rights for marginalized groups. In this sense particular mechanisms are central to facilitate capacity development that empower marginalized groups in decision-making processes and management of rights. The Dryland System CRP intends to spread sustainable agriculture by promoting:

- Farmer experimentation to improve soil management, seeds, water management and farming systems.
- Generating early success to create enthusiasm in communities.
- Maximizing the use of local resources and knowledge, and integrating useful new practices as well.
- Focusing on a limited number of technologies and practices so that farmers can manage the process of change.
- Farmer-to-farmer sharing of successful practices.
- Diversifying farming systems.
- Reaching a critical mass of adopters in communities, leading to a multiplier effect.
- Strengthening local organizations to manage the process.
- Partnership with organizations and movements that are dedicated to addressing issues related to gender, ethnic and other forms of inequalities in their work.
- Empowering people (women and men) to overcome the constraints and barriers to gender equity.
- Multiple stakeholder interactions with policymakers, including them in the research process, from the earliest appropriate stage, making them partners in changing policy and incentives structures. Providing scientific support to the private sector can also help to develop investment and technology packages that support sustainable, pro-poor agriculture.

2.2 WEAI's five domains of empowerment

The present impact gender research using WEAI index procedures is clearly based on an adaptive WEAI in local context (not at the country level) that still collect data to fulfill the 10 indicators. It is important to recall that following IFPRI review of the WEAI in 2013, an adaptive approach has been consider to better understand WEAI methodology. Indeed, Hazel Malapit & al (2015) has clearly

demonstrated that limits and difficulties mentioned prior to the WEAI review needed a development of adapted WEAI. So two tools are developed from this process:

- an updated version of the original WEAI, also known as WEAI 1.1, contains the same indicators and questions as the original WEAI but can take additional short hypothetical stories
- a shorter, streamlined version known as the Abbreviated WEAI (A-WEAI). This A-WEAI is still measuring the five domains of empowerment but by responding only to 6 indicators over the 10. It is supposed then to take less time (30%) than the original WEAI. Hazel Malapit & al (2015) gives precision that the A-WEAI includes also the new autonomy vignettes, a simplified 24hour recall time module that collects only primary activities, and streamlined sections on production decisions and resources.

Table 1 :Table comparing A-WEAI to original WEAI

Original WEAI		A-WEAI	
Domains	Indicators	Domains	Indicators
Production	Input in productive decisions Autonomy in production	Production	Input in productive decisions
Resources	Ownership of assets Purchase, sale, or transfer of assets Access to and decisions on credit	Resources	Ownership of assets Access to and decisions on credit
Income	Control over use of income	Income	Control over use of income
Leadership	Group membership Speaking in public	Leadership	Group Membership
Time	Workload Leisure		Work Load

This research has used the original WEAI by tempting to measure the 10 indicators within the five main domains of empowerment such as production, resources, Income, leadership and Time. Besides, a particular attention has been drawn on youth population in order to better informed possible link between age and empowerment in these five domains.

Production

The aim within the production domain is to see and to measure the level of women and Youth inputs with the production in terms of type of cultures, seeds, conservations practices, work organization. Production is related to different productive activities handled in the community such as livestock activities, agricultural activities, non-agricultural activities. Two indicators are relevant in this domain which are inputs in production and Autonomy in production decision making.

Resources

This particular domain is focusing on women and youth access to and property right on resources they use and need for their social and economic goals. This domain is also underlying their opportunities and capacities to own, give, sell and transfers assets they have. It's here important to understand how they access to credit and if they could take the decision to take a credit.

Income

Knowing women and youth access to resources and to production is not sufficient if their capacity to keep and control income from their activities is not meet. Indeed, capacity and decision to keep, use and control later their income is key to the empowerment' steps for women and youth

Leadership

Here it is important to know the places that women and youth take within the household and the community. This is an opportunity to understand if time dynamic and Dryland Systems program

have impacted on today gender relations in order for women and youth to be active in decision making spheres. Where are women and Youth in community engagements paths?

Time

Time is the last to give a profound meaning to the other four domains; because having time and having control on their time to be present, work and take decision for the others four domains, is key to empowerment status.

2.3 Gender Parity

This is an opportunity to get into comparing the gender parity between men and women using the quantitative data collected at the household level.

The objectives of this research is to measure women and youth capacities and opportunities in the five main areas (Decision, Resources, Revenue Control, Leadership and Time) of the empowerment index in the northern region of Burkina Faso. The main approach to conduct a WEAI research is known to be a quantitative approach. This present research used the adequate approach in addition to a qualitative approach that allowed collecting qualitative data that helped to give more insights to the data collected within the questionnaire. Moreover, the adding value to of the research is the inclusion of the youth disaggregation in the WEAI computation. Data was collected used mobile application.

Measuring the 5DE results in a number ranging from 0 to 1, where higher values indicate greater empowerment. The score has two components. First, it reflects the percentage of women and youth who are empowered (He). Second, it reflects the percentage of domains in which those women and youth who are not yet empowered (Hn) already have adequate achievements. In the 5DE formula, Aa is the percentage of dimensions in which disempowered women have adequate achievements: $5DE = He + Hn(Aa)$, where $He + Hn = 100\%$ and $0 < Aa < 100\%$. This can also be written, following the Alkire Foster (2014) methodology, as $\{1 - (Hn \times An)\}$, where $An = (1 - Aa)$ and reflects the percentage of domains in which disempowered women on average do not have adequate achievements.

2.4 Study sites

The interventions' sites of ICRAF are composed of provinces of the Central North region (Bam), Northern region (Yatenga, Zandoma and Passoré), Boucle du Mouhoun region (Sourou) and Central West region (Sanguié). From a sociocultural point of view, these provinces present various specificities. To allow better comparability between ICRAF intervention villages and control villages for areas with the same characteristics and to obtain a representative sample, the northern region was chosen as the research site. Indeed, it would not be prudent to compare two different regions with different characteristics. In the control and intervention villages of the Northern Region, data have been collected from women, men and the young population aged between 18 and 24 years.



Graph 1 : Map Northern region¹.

2.5 Sampling

A probabilistic sampling based on data from the 2006 RGPH of Burkina Faso has been used for to select villages within this norther region.

Table 2 : Intervention commune in the region of North

Provinces	Communes	Household	Total	Men	Women	Number of men for 100 Women
Passoré	Arbollé	6717	45848	20635	25213	82
Yatenga	Zogoré	2510	18384	8334	10050	83
Zandoma	Bassi	3188	21557	10090	11467	88
	Total	12415	85789	39059	46730	

Source : RGPH 2006, INSD Burkina Faso

¹ From « cadre stratégique régional de lutte contre la pauvreté, région du Nord, Juin 2005 »

Table 3 : Control commune in the region of North

		Household	Total	Men	Women	Number of men for 100 Women
Passoré	Kirsi	2798	190019	8671	10348	84
Yatenga	Tangaye	4793	32612	15306	17306	88
Zandoma	Tougo	4271	30538	13987	16551	85
	Total	11862	253169	37964	44205	

Source : RGPH 2006, INSD Burkina Faso

To obtain the sample size in the control and intervention sites, we used the following standard formula:

$$n = \frac{z_{\alpha}^2 p(1-p)(DEFF)}{d^2}$$

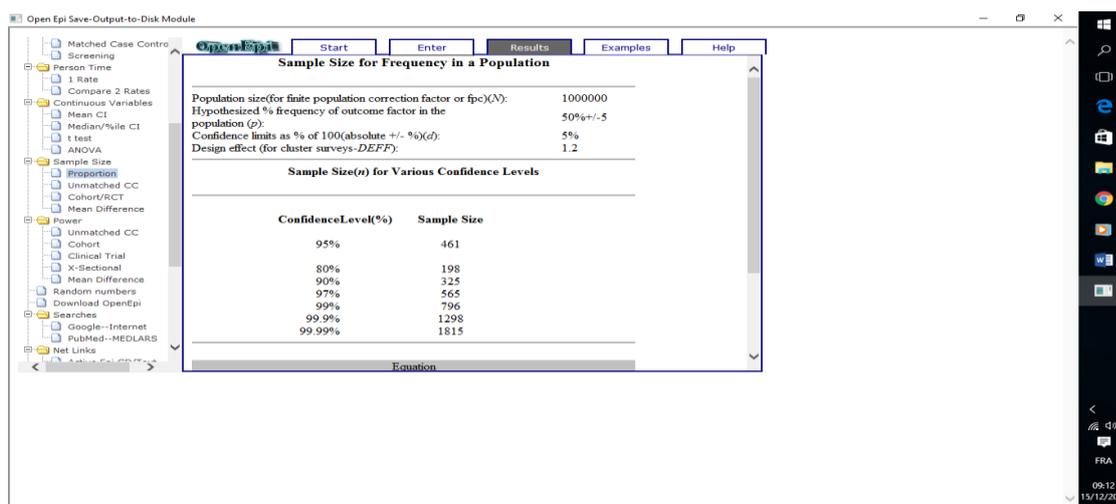
with $z_{\alpha} = 1,96$ for $\alpha = 5\%$

$d =$ margin for error = 0.05

$p =$ The frequency of occurrence of the event not being known. We used a probability (p) of occurrence of the event at 50%.

DEFF: 1

Table 4: Using of the software to calculate the sample



We estimated the non-response rate at 10% and we obtained the following sample size $N = (461 * 10/100) + 461 = 508$

In each arm of the study, 4 villages have been surveyed and the number of villages chosen per commune has been proportional to the number of villages that the commune has in the concerned arm.

In each intervention and control commune, the villages have been chosen by using a probabilistic sampling method.

Besides, the survey unit being the male and female in the household, this allowed me to conduct the survey with at least 260 households in both control zone and intervention areas. This figure corresponds to the number of households to be surveyed both in the control zone and in the intervention zone

To obtain the size of the households surveyed in each commune, we used the probability proportional to the size of the commune. The table below show the proportion surveyed:

Table 5: Sample size in each zone

Areas	Provinces	Communes	Villages	number of households to be surveyed	number of households to be surveyed	Rate of realization
Intervention	Passoré	Arbollé	Bendogo	25	25	100%
	Yatenga	Zogoré	Boulounsi	19	19	100%
	Yatenga	Zogoré	Nango_Yarce	53	59	111%
	Zandoma	Bassi	Sorogo	37	37	100%
Control	Passoré	Kirsi	Mare	14	14	100%
	Passoré	Kirsi	Yalgatenga	28	28	100%
	Yatenga	Tangaye	Bomsomnore	55	55	100%
	Zandoma	Tougo	Danaoua	23	23	100%
				254	260	102%

In each village, we took into account household specificities such as polygamous households, monogamous households and women headed households.

2.6 Instruments and data collection

Quantitative approach

- For the assessment of the impact of the gender mainstreaming, the **WEAI** (Women Empowerment Agricultural Index) standard tool has been adapted and contextualized WAS DS to include age-disaggregation with cost effective household sampling. The survey is carried out to gather data from a sample of households and communities selected from WAS-DS transect action sites and control sites.

Qualitative approach

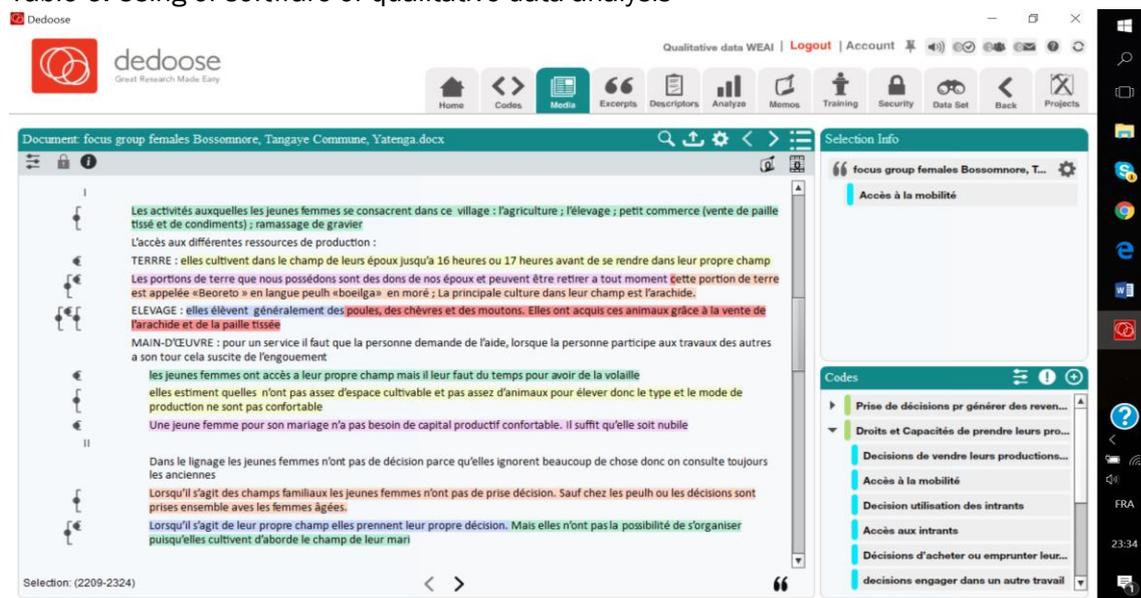
- One focus group discussion of young men and one focus group discussion of young women from 8 to 12 people maximum has been conducted in each selected village.
- In addition, direct observation was used to supplement qualitative data, in particular to identify conservations practices conducted by households' members.

2.7 Data analysis

For the qualitative data we used a sensemaking as a first step of data analysis right in the research sites each evening. Sensemaking is a daily synthesis tool used to collect preliminary analysis from surveys, focus group discussion and observation in survey villages.

The qualitative data particularly those from focus groups discussions have been entered into word and exported to Dedoose software. In addition, a codebook has been developed to generate codes to be used to analyze the transcripts in Dedoose. Excerpts have been then obtained for the analysis.

Table 6: Using of software of qualitative data analysis



The quantitative data was collected using tablets through ODK (Open Data Kit) system.

The data was then transferred to the computer via the platform <https://ona.io>. The data on ONA are finally converted to the extension “.sav” and “.xls”.

III. Findings

3.1 General characteristics of interviewed actors

Data have been collected from 260 households which is 2 % over the planned sampling at the beginning of the research (254 households). The rate of completion of the survey is therefore 102%. The percentage of households headed by women are 5.77% (11 in intervention zone and 4 in control zone). A total of 272 women and 249 men have been concerned by the quantitative survey and 64 women and 72 men by the focus group discussions. The qualitative data have been collected from women, young women and young men whose age range from 18 to 25 years old. Indeed, we focused on the young men and young women for the focus group discussion. It is important to mention that few "adults" persons (2 to 3 people maximum in the 16 focus group discussions) have participated to the focus group, however the questions asked were only about youth. We succeed this particular challenge by asking that the young people respond first and then we ask the adults to respond.

Important demographic information and data are available and rich, but we will be focusing specifically on the present report on the marital status, the sex of the household member and head of household, ethnicity, religion, living condition, capacity of literacy. These variables will be relevant for analysis on each of the different empowerment domain.

Table 7: Distribution by religion in the different areas

Religion	Intervention Areas			Control Areas		
	Frequency	Percent	Cum Percent	Frequency	Percent	Cum Percent
Muslim	134	95.7%	95.7%	116	96.7%	96.7%
Christian protestant	5	3.6%	99.3%	3	2.5%	99.2%
Animist	1	0.7%	100.0%	1	0.8%	100.0%
Total	140	100.0%	100.0%	120	100.0%	100.0%

Whether in intervention or control areas, more than 95% of households are of Muslim religious faith. The main socio-cultural group in both areas are the moose with a higher proportion (96.7%) in the intervention area. In the control zone, there was a remarkable presence of the Fulani socio-cultural group (25.8%), compared with 2.1% in the intervention zone.

Table 8: Distribution of respondents by Socio cultural Group in the different areas

Socio cultural Group	Intervention Areas			Control Areas		
	Frequency	Percent	Cum Percent	Frequency	Percent	Cum Percent
Mossi	136	97.1%	97.1%	88	73.3%	73.3%
Other	1	0.7%	97.9%	1	0.8%	74.2%
Fulani	3	2.1%	100.0%	31	25.8%	100.0%
Total	140	100.0%	100.0%	120	100.0%	100.0%

Table 9: Distribution of respondents by Matrimonial status of the household in the different areas

Matrimonial status of the household	Intervention			Control		
	Frequency	Percent	Cum Percent	Frequency	Percent	Cum Percent
Traditional engagement	74	52.9%	52.9%	73	60.8%	60.8%
Widow	8	5.7%	58.6%	4	3.3%	64.2%
Traditional marriage/Monogamous	3	2.1%	60.7%	3	2.5%	66.7%
Traditional Marriage /Polygamous	7	5.0%	65.7%	3	2.5%	69.2%
Religious Marriage/Monogamous	34	24.3%	90.0%	25	20.8%	90.0%
Religious Marriage/ Polygamous	11	7.9%	97.9%	10	8.3%	98.3%
civil Marriage/Monogamous	3	2.1%	100.0%	2	1.7%	100.0%
Total	140	100.0%	100.0%	120	100.0%	100.0%

Table 10: Distribution by Type of households in the different areas

Type of households	Intervention		Control	
	Frequency	Percent	Frequency	Percent
Men and Women	129	92.1%	116	96.7%
Women only	11	7.9%	4	3.3%
Total	140	100.0%	120	100.0%

The data shows that 7.9% of the household are headed by women and 92.1% are composed by man and woman within the intervention zone. In the control zone the households headed by women represent 3.3% of the household.

Table 11 :Distribution by Reading and writing capacity in the different areas

Reading and writing capacity	Intervention			Control		
	Frequency	Percent	Cum Percent	Frequency	Percent	Cum Percent
Can not read and write	88	62.9%	62.9%	65	54.2%	54.2%
Can sign (write) Only	1	0.7%	63.6%	4	3.3%	57.5%
Can read only	2	1.4%	65.0%	2	1.7%	59.2%
Can read and write	49	35.0%	100.0%	49	40.8%	100.0%
Total	140	100.0%	100.0%	120	100.0%	100.0%

In the area of intervention, 62.9% heads of household cannot read or write, compared to 54.2% in the control zone. Heads of households able to read and write, the proportion is 35% in the area of intervention and 40.8% in the control zone. Among the women headed household only 1 can sign and the 10 cannot read and write.

It has also been noted that 32.1% of the houses are in excellent condition and good shape with a need of little wear and damages and 47.9% of houses have roofs made of sheet metal. In the control areas, these numbers are relatively high like 39.1% for the house and the percentage of this type of roofs made of sheet metal, goes to 70%. Having roofs made of metal sheet is perceived in these communities as improved housing situation. The heads of household prefer to equip the main houses of the metal for better living condition. The additional information will be to know if the women are also concerned by this improvement of living condition. However, the floors are of clay, mud around 81.4% in the intervention zone and 50% in the control zone.

It has also been taking into account the main source of energy for the cooking which is more

composed of firewood. 87% to 89% of households use firewood as their main source of energy in the intervention and control areas.

Besides, access to water which is key resource for household is poor. More than 80% of households do not have a source of water inside the household. In General, unprotected wells and dug wells are the main sources of water for households. In the intervention area, the proportion of households using boreholes (42.9%) did not differ significantly from households using unprotected dug wells (40.7%). On the other hand, in the control zone, the proportion of households using boreholes is 87.5% compared to 10% for those using unprotected dug wells.

The households also have also poor access to latrines within the intervention and control zones. In the area of intervention, 51.4% of households do not have latrines compared to 37.5% in the control zone.

The individual and households' key variables have been meaningful to better understand the specification of the data found. It is then important to note that the analysis and the results measuring the Empowerment index was done primarily within Dryland system interventions areas that are Bendogo, Boulounsi, Nango Yarce, Sorgho villages. Comparative analysis with the control villages will be introduced following the WEAI result on the interventions areas.

Therefore, the survey results and qualitative data on the interventions areas are developed in the following analysis.

3.2 Women Empowerment in Agricultural Domains: key results and Analysis

Resources

Ownership of assets

The research has shown that women still keep their access to small land received through their marriage called "beolga" in moore language or «Beoreto » *in fulbe communities*. This land for any women married is key for women possibilities to conduct any agricultural activities for themselves: "The portions of land we own are donations from our husbands and can be withdrawn at any time" (FGD). Therefore, it came out that women generally access to land in three ways. One way is that they access to land by marriage. The second way is that they borrow from anyone but with the permission and the tutorship of the husband. The third way to access land is to get, to own piece of gardening plot at the low land or irrigated perimeters usually organized by development project. Women could then obtain a piece of land. They grow in this land, rice, cabbage, tomatoes, onions, oseille etc. In their "beolga" obtained from husband they cultivate millet, sorghum, maize. It's important to know that the "beolga" is usually very poor land as stated by informant and have a low security because the land is always withdrawn and as the women say "you get always new beolga" in replacement of the old one. "Beolga" is finally a conservation practice for men since its soil quality is always better after women have been working on it.

Young women who are not married do not received this small land. We rarely met young women at age of 18 who are not married yet. All the informants met during the research are therefore married. Young men in all the communities also have access to the same type of land (beolga). Besides, very few resources are described as belonging to women and young women. Few among them possess animals such as small ruminants and poultry bought with the income from the selling of their harvest.

While it comes to young men, they have more assets and resources thanks to their opportunities to work outside the village at the gold mines sites. The young men in some of the communities are the one who possess the village shop (boutiques) selling different goods.

The below table questioning the property right on land for women shows that only 1.72% in control zone versus 8.3% of women in intervention zone own land. Even the women headed households demonstrate also poor land property rights. Only 1 of those women have said to own land. The remaining 10 women headed households still depend on males' lineage members to access land. In general, women who own lands by themselves because they can even take decision to sell or give these lands away are around 8.3%. Again, in intervention zone, 8.3% of women can take

decision to sell their agricultural lands. Mention has to be made on this particular analysis. The intervention sites are closed to low land and irrigation land opportunities, the land underlined here are more related to their possession of the irrigated land for gardening activities.

Table 12: Property right of the agricultural lands

Property right of the agricultural lands	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
<i>Herself</i>	2 (5.7%)	3(12%)	1 (2.8%)	0(12%)
<i>Herself and Partner</i>	7(20%)	7(28%)	11(30.6%)	11(28%)
<i>Herself, partner and other household member</i>	0(0%)	0(0%)	8(22.2%)	1(4.5%)
<i>Herself and other non-household member</i>	2(5.7%)	0(0%)	0(0%)	0(0%)
<i>Partner</i>	15(42.9%)	9(36%)	10(27.8%)	4(18.2%)
<i>Partner and other household member</i>	0(0%)	0(0%)	1(2.8%)	3(4%)
<i>Partner and other non-household member</i>	2(5.7%)	1(4%)	1(2.8%)	0(0%)
<i>Other household member</i>	0(0%)	0(0%)	0(0%)	1(4.5%)
<i>Other non-household member</i>	5(14.3%)	1(4%)	0(0%)	1(4.5%)
<i>None</i>	2(5.7%)	4(16%)	4(11.1%)	1(4.5%)
Total	35(58.3%)	25(41.7%)	36(62.1%)	22(37.9%)
	P=0.4387		P=0.1449	

Table 13: Decision to give away agricultural lands

Decision to give away agricultural lands	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
<i>Herself</i>	2 (5.7%)	3(12%)	5 (13.9%)	0(0%)
<i>Herself and Partner</i>	1(2.9%)	0(0%)	2(5.6%)	1(4.5%)
<i>Herself and non-household member</i>	1(2.9%)	0(0%)	0(0%)	1(4.5%)
<i>Partner</i>	21(60%)	15(60%)	23(63.9%)	14(63.6%)
<i>Partner and other non-household member</i>	1(2.9%)	0(0%)	1(2.8%)	1(4.5%)
<i>Other non-household member</i>	2(5.7%)	3(12%)	0(0%)	0(0%)
<i>Non-applicable</i>	5(14.3%)	0(0%)	1(2.8%)	1(4.5%)
<i>None</i>	2(2.9%)	4(16%)	4(11.1%)	4(16%)
Total	35(58.3%)	25(41.7%)	36(62.1%)	22(37.9%)
	P=0.2795		P=0.2189	

Access to livestock to certain type of animals are allowed within the region. Women can raise and own animals such as small ruminants and poultry. They buy the animals with the income from the sales of their crops and from the work they do outside the household on other people field through their women groups. The qualitative data also insist more on the raising in terms of fattening the animals and to sell them but not keep them as property within the household. This finding is more recurrent within the moose socio cultural groups and not with the Fulani whose women could inherit animals such as cows and small ruminants. Indeed 5% on these women own large livestock (cattle) with this group and 3.3% can decide to sell, mortgage or rent livestock.

Besides, 5% of interviewed women in intervention zone can decide to give or decide a new purchase of livestock. On the other hand, in these households, men are 5 to 6 times more likely to decide the use and destiny of large livestock. Women in moose socio cultural group (comparatively to Fulani socio cultural group) indeed are not allowed in general to conduct cattle breeding as the women stated in their focus group discussion in Naongo Yarce : "women are not entitled to large livestock, but they can raise small ruminants (goats, sheep), poultry".

These numbers stay the same when it comes to small livestock such as small ruminant. The proportion of women who own small livestock is low and rarely exceeds 8%. Although in some cases the decision on the use or acquisition of a new animal is made collegially, the fact remains that in most cases (35%) it is the man who owns and decides the most.

Table 14: Poultry owner

Poultry owner	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
Herself	1 (2,9%)	3(12%)	1(2,8%)	0(0%)
Herself and Partner	7(20%)	6(24%)	7(19,4%)	5(22,7%)
Herself, partner, and other household member	2(5,7%)	1(4%)	2(5,6%)	0(0%)
Herself and other household member	1(2,9%)	0(0%)	0(0%)	1(4,5%)
Partner	10(28,6%)	32(0%)	12(33,3%)	6(27,3%)
Partner and other household member	0(0%)	0(0%)	2(5,6%)	2(9,1%)
Other household member	0(0%)	4(12%)	4(11,1%)	1(4,5%)
None	14(40%)	6(24%)	8(22,2%)	7(31,8%)
Total	35(58,3%)	25(41,7%)	36(62,1%)	22(37,9%)
	P=0,5043		P=0,6458	

The median number of poultry owned by household (Chickens, ducks, turkeys, pigeons) is 11 with a minimum of 1 and a maximum of 100. In Burkina Faso, the CPAVI² reference system showed that more than 86% of households produce poultry and poultry care occupies a share in the working time of women. 21.7% of women own poultry with their household and 15% of them could even decide to buy new poultry. These numbers could show that in most households, women are the owner of poultry production.

Equality important, it came out that women and youth have the trend to engage into paid work outside the household in other persons' fields and in mining sites are growing. Indeed, additional opportunities for women and young men to access resources and have income exist more and more. However, it is important to underline that women can easily engage into paid work only through their groups called "Song song taaba" but never alone. Women say that husband will not allow. They cannot in this case accept alone a paid work in someone else field if they do not use the group opportunity.

Assets such as mobile phone and transportation could be important for women to access mobility and freedom to develop economic activities. It appears that, in intervention zone 5% of women own mobile phone themselves and 26.7% own with their husbands. These numbers go up to 6.7% when it comes to own alone transportation means and 11.7% owning together with their partner.

Table 15: Property of mobile phone

	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
Herself	2	1	3	2
Herself and Partner	12	4	10	6
Herself, Partner and other household member	4	3	2	3
Herself, Partner, Non-household member	0	1	0	0
Herself, and other household member	0	1	0	0
Partner/Spouse	6	7	15	11
Partner and other household member	2	2	2	0
None	9	6	4	0
Total	35	25	36	22

² Centre de Promotion de l'Aviculture Villageoise

Purchase, sale, or transfer of assets

Knowing all assets and resources women access within their household and communities, it is important to know how strong this access to the resources is protected and secured. Could women sell, give away, transfer or buy these assets? What is their property right status to get to another level of the possession process? Indeed 8.3% of women alone can decide regarding sale and transfer of land. 1.7% can decide this together with their husbands or their partners. 6.7% of women can mortgage or lease their land and 3.3% can take decision to proceed together with their husband. When it concerns livestock assets, these numbers happen to be very low. So 3.3% to 5% of women can decide to sell, transfer, mortgage, lease and give their big animals (cattle) and 8.3% can do the same with the small ruminants and 11.6% of women could claim property on their poultry production buy deciding to sell or transfer to someone else. Purchase rate for women with the agricultural assets stay in the same percentage.

Additionally, women capacity to decide to purchase all most of these assets is around 5%. Within poultry raising activities this number reach 15% of women deciding to purchase poultry for their activities. This could be understanding since poultry raising in these part of Burkina is still considering as a "traditional" activity as a saving opportunity and not as a business comparatively to the Center West and Boucle du Mouhoun region of Burkina Faso. There is access opportunity for women to get involved. It is then taken as an activity that do not procure quick and enough income. Women in this context are more involved with in the activity: "the vast majority of women raise poultry and small ruminants such as sheep and goats. They help their spouses in the rearing of cattle if they have them in their household" (FGD BI). This situation will change; men will come back to work in the poultry business if the mortality rate of the poultry is handled and minimize with the help of animal resources agents.

Non agricultural assets such as mobile phone and transportation means is owned by women in certain proportion. Therefore, 10% of women alone could sell and transfer transportation means while 5% to 8.3% of them could do the same with mobile phones.

Table 16: Decision to sell transportation means

	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
Herself	5	1	3	0
Herself and Partner	3	1	2	1
Herself, Partner and other household member	1	3	0	1
Herself and other household member	0	1	0	0
Herself and other non-household member	1	0	0	0
Partner	17	13	27	15
Partner and other household member		0	1	1
Other household member	0	1	0	0
Not applicable	0	1	0	0
None	8	4	3	3
Total	35	25	36	22

Access and decisions about credit

What decisions are taking about credit? Who take the decisions, who choose the credit source and how the credit is used?

Credit opportunities within the interventions sites is very poor. The qualitative data show that it comes to be one of key barriers for women and youth to reach economic opportunities. Indeed, the main financial source of women and youth activities is the sale of their agricultural production

(gardening production, cash crop production such as groundnuts, and beans) and their work in mining sites. Credit sources are then very few. The survey data indeed showed that household members in general are few to get involved in credit may it be from formal or informal sources. Only 2 respondents within the interventions sites have responded that someone from their households has taken a credit within the past 12 months with NGOs. In this case 1.7% of women have taken decisions either alone or with partner to take the credit and 1.7 of women can decide either alone and either with their partners to use and control the money. When it happens to be an informal credit sources, 3.3% of women can decide by themselves to take credit and 1.7 can do it together with their partners. After accessing the credit, 8.3% of women can decide to freely use it alone. The decision on how to use the credit in this case depend only of the person who took the credit. The data underlines indeed that none of them will decide using the credit with their partners or another family member. With banks and formal financial institution, the rate of women accessing to credit is 1.7% and they can decide the use of it. Hence, around 1% of the women surveyed have already taken loans from financial institutions, informal lenders, friends, banks or NGOs. This number goes up when the source of the credit is the microfinance and group loans, including Village Savings and Loan Association (VSLA). For a fact, 15% of women have taken out loans from microfinance institutions and group loans. And these 15% of women say they completely control the borrowed money.

In sum, women and youth's perceptions on their access to resources within their household and their communities are negative.

The comparison based on age show that either in the intervention zone or the control zone, decisions on agricultural lands are taken mostly by the partner/spouse of the youth. We read then that 42.9% of spouse in the intervention zone and 27% of spouse in the control zone are the one taking decision concerning Agricultural lands. Youth spouse are more involved in these kinds of decision than spouse of adult women. Indeed, the qualitative data have also underlined that many practices and behaviors are tolerated to adult and mature women comparing to the young girls "newly" married. The results all other the sub domain of resources show strongly the same trends. So only sex differentiation is not subjected to gender inequalities, age is also an important aspect that call attention.

Production

Agriculture and conservation's activities

Women are engaged in agriculture and household work. They all cultivate in the fields of their husbands. The main fields are used for family feeding and also cash crop production. The household then grow millet, sorghum, peanuts, peas, Beans and sesame. This culture is for consumption. How much input did women and youth have on making decisions about food crop farming, cash crop farming, livestock raising?

When it comes to food crop farming decision making, 13% women have input into most of the decisions. This number grow up to 43,3% when the input is only on certain decisions. Even tough women do work in men cash crop farming, they have little role in participating and influencing decision about the cask crop farming which mainly belong to the husband. However, women have also opportunities as mentioned above to have access to their beolsé and borrowed land when they can grow cash crop product. Therefore, survey show that women input in most of the decisions in this case is around 5% and in the case of inputs in certain decisions the percentage of women goes to 45%.

Table 17: Decision making on food crop farming

Decision making on food crop farming	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
No contribution or contributions to some decisions	7 (20%)	7(28%)	10(27.8%)	6(27.3%)
Contribution to some decisions	16(45.7%)	10(40%)	15(41.7%)	6(27.3%)
Enter into most of decisions	6(17.1%)	2(8%)	1(2.8%)	1(4.5%)
No decision making	4(14.4%)	5(20%)	9(25%)	8(36.4%)
None	2(5.7%)	1(4%)	1(2.8%)	1(4.5%)
Total	35(58.3%)	25(41.7%)	36(62.1%)	22(37.9%)
	P=0.69		P=0.8031	

Table 18: Decision making on cash crop farming

Decision making on cash crop farming	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
No decision making or contribution to some decisions	3 (8.6%)	1(4%)	4(11.1%)	3(13.6%)
Contribution to some decisions	17(48.6%)	10(40%)	6(16.7%)	3(13.6%)
Enter into most of decision	1(2.9%)	2(8%)	2(5.6%)	0(0%)
No applicable	1(2.9%)	1(4%)	3(8.3%)	0(0%)
None	13(31.7%)	11(44%)	21(58.3%)	16(72.7%)
Total	35(58.3%)	25(41.7%)	36(62.1%)	22(37.9%)
	P=0.7916		P=0.4551	

Indeed, previous research has shown that women in Burkina have more inputs in decisions when it come to their own activities and not the activities of the household where men are the main decisions makers. Thiombiano Bilampo (2014) analysis on more than 10556 rural women in Burkina Faso has underlined that the capacity of women taking part in decisions making at the household level depend on the type activities.

Furthermore, qualitative data demonstrate that women and youth are not involved in decision-making when it comes to household's food crop and cash crop farming. As the women say in Sorogo village "The field work begins with us. It's the day we see the head of household with his daba heading towards his field, at this moment we also know that field work has started and we follow." (FGD). This underlines how the subject on the farming is not really a subject where decision making is shared with the other members and wives and the sons in particular. They add again that "it is when the men give us the seed « Kabouudou » destined for the culture to sort that we realize that it is the seed to be cultivated for the year" (FGD) In other context such as in Naongo yarce and Boulounsi, we learn that in reality, women participate as accompanying persons and their intervention and decision are really limited: "The woman is not entitled to participate, make decisions together with older people in the lineage" (FGD)

However, autonomy in production could be approached when the farm "belongs" to the women or the youth. In this case they take the decision about what seed to cultivate, what inputs to use and what crop to sell and when to sell it: "For the sale of crops like groundnut, cowpea, sesame, women can do it without any problem, you just have to inform the husband" (FGD). This freedom is somehow limited when it comes to their decision about the time to take for their own field. They have then limited decisions making about the time amount and the period necessary for their field. Women and youth are entitled to work first and by priority in the family farm before working on their: "we cultivate in our husbands' fields until 4 pm or 5 pm before going to our own field" (FGD). In addition, they demonstrate that this come to be one the barriers that prevent them to be economically autonomous: "women do not have access to good land at all to expect better yields, women face difficulties in accessing inputs and seeds, difficulties in accessing time necessary to work properly in their Beolsé" (FGD). The autonomy in production that focus on person ability to act on what he or she values, to have his or her own intrinsic motivations without any influence from others is relatively poor.

Dryland systems program has conducted conservation activities in all the interventions sites. It has been important to measure the level of participation of women and youth on these activities. It happened that youth and women have strongly been involved in the training and in the different project activities. It is interesting to see that they have knowledge about the different conservations practices, types of inputs and types of seed that could help the communities to be climate resilient. This involvement and knowledge have helped the youth and the women to participate in certain decisions in production “they contribute to the maintenance of the manure pit, transport and spreading on arable land, in the mobilization of seeds and fertilizers, they contribute either by the purchase or the sharing of the varieties received from agricultural agents. They participate in the realization of improved Zai, stones retaining walls” (focus group discussions). Undoubtedly, women and youth play major roles in all conservations activities within the household more as workforce. When the decisions of technics to use are taken, the youth help to put them practice. They help build compost pits, collect stones for stone retaining walls, zai etc. It appears that even though their role here comes as workforce, this strongly build their participation as central to such project. In this way their opinions particularly the youth is taken into account to handle and conduct the technics. Furthermore, youth and women get engage into paid work when they bring their knowledge and force to run the conservation technics outside their own family and lineage. When we analysis the rate of 43% of women involved in certain decisions with the household in light of their participation to conservations activities, it appears that these roles in conservation and their roles as women responsible for domestic activities “They intervene in the preparation, for example, of the dishes for customary ceremonies, when leaving the preserved seeds, they help to prepare the grains. In some circumstances they are consulted to provide their services, advice and other” (focus group discussions), come to be very pertinent in the 43% input in certain decision making.

Livestock activities

As mentioned earlier, women do not possess animals in general; owning animals is limited to fattening activities with small ruminants, pork and poultry production. This is particular with moose socio cultural groups who are 97.1% of the total interviewed individual in this interventions sites of the DS program. Indeed, with Fulani groups (2.1% in this survey), women can own animals such as cows and all other small ruminants.

Table 19: Decision making about livestock

Decision making about livestock	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
No contribution or contribution to some decisions	3 (8.6%)	3(12%)	1(2.8%)	3(13.6%)
Contribution to some decisions	12(34.3%)	8(32%)	8(22.2%)	4(18.2%)
Enter into most of decisions	0(2.9%)	1(4%)	1(2.8%)	0(0%)
No applicable	6(17.1%)	3(12%)	14(38.9%)	5(22.7%)
None	14(40%)	10(40%)	12(33.3%)	10(45.5%)
Total	35(58.3%)	25(41.7%)	36(62.1%)	22(37.9%)
	P=0.7631		P=0.3227	

This table shows that in intervention zone, women's contribution in certain decisions is quiet important (33.3%) but comparatively very low when this contribution is about most of the decision. This contradiction is interesting because it could call attention on what types of decisions and on whose resources or production women could get involved in certain decisions. Indeed, when the production, the resources and in this case the animals is owned by women themselves, they have some room to take decisions. The rate here is on the light of when women are the owners of the animals. Nonetheless, it is quiet impossible to demonstrate women autonomy within livestock production since she has limited decision about the type of animals to raise (poultry, small ruminants, pork), how to raise the animals (more freedom to conduct fattening), the possibility to sell the animals : “But for the sale of animals such as poultry and sheep and goats, either the buyer is invited to the house, or the man takes care of it and convoys the animals to the market to sell and returned the money to the women” (FGD NY). If women in particular act differently they will be

in troubles. The analysis based on age doesn't give strong relevance. Youth participation and contribution into most decisions and some decisions within livestock domain is as low as adult contribution.

Income

We have learnt for the qualitative data that there is relatively mobility possibility for women and youth to get involved in different activities inside and outside the households. These opportunities allow them to generate incomes from different activities. They sell their crop, their vegetable, their animals, they engaged into paid work outside the household in field cultivation and harvesting, they engage into paid work on conservations technics providing inputs (stones, water, compost etc.), and conducting zai; they also engaged into mining activities. Young men in Boulounsi say for example that "Young people use income from the sale of their agricultural products, income from the sale of gold, skilled labor, which generates substantial income for the acquisition of fertilizers, seeds, insecticides, vaccination of animals. They also receive gifts (compensation) from heads of household and other family members to encourage them." Likewise, women reported that: "for those who are married for a long time, they use the income from the sale of cash crops, money from benefits on plowing fields, compaction works on housing stock for the acquisition of fertilizers, seeds, insecticides, protective screening plants and vaccination. Income from mining activities is also used to purchase inputs for production" (FGD). The incomes from these activities are generally (not fully) controlled by women and youth themselves: "Women attests that the greater part of the men do not confiscate their income for question of honor, but it can happen that they borrow the money for their own needs and reimburse to them".

Indeed, the table below shows the quantitative data. In the intervention area, the results show that 11.6% of women can take all decisions about using of income from food crop production; they are 43.3% when it is about taking certain decisions about the use of the income. The rate stays almost the same when is about cash crop production.

3.3% women can take full decision on revenues from livestock activities while 31.3% of women take partly control of the use of the revenues.

Table 20 :Decision about the use of income of food crop

Decision making about the use of income of food crop	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
No contribution or contribution to some decisions	6 (10%)	5(8,4%)	6(10,3%)	5(8,7%)
Contribution to some decisions	15(25%)	11(18,3%)	16(27,6%)	6(10,3%)
Enter into most of decisions	5(8,3%)	2(3,3%)	2(3,5%)	1(1,7%)
No decision making	3(5%)	1(1,7%)	2(3,5%)	1(1,7%)
None	6(10%)	6(10%)	10(17,2%)	9(15,5%)
Total	35(58,3%)	25(41,7%)	36(62,1%)	22(37,9%)
	P=0,8506		P=0,7176	

Table 21: Decision about the use of income of cash crop

Decision making about the use of income of cash crop	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
No contribution or contribution to some decisions	3 (5%)	1(1.%)	4(6.9%)	3(5.2%)
Contribution to some decisions	1(1.7%)	4(6.7%)	6(10.4%)	3(5.2%)
Enter into most of decisions	5(8.3%)	2(3.3%)	2(3.4%)	0(0%)
None	14(23.3%)	12(20%)	24(41.4%)	16(27.5%)
Total	35(58.3%)	25(41.7%)	36(62.1%)	22(37.9%)
	P=0.1987		P=0.6943	

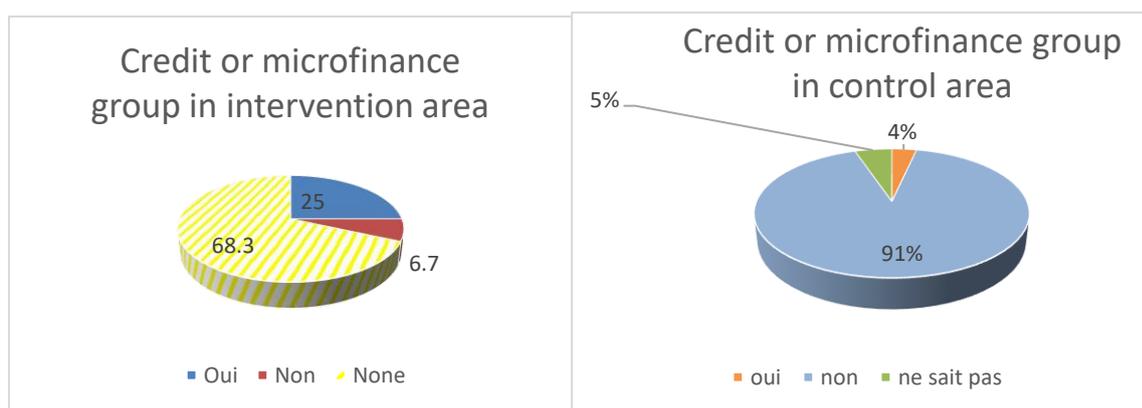
Table 22: Decision making about the income of livestock

Decision making about the use of income of livestock	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
No contribution or contribution to some decisions	2 (3.3%)	2(3.3%)	0(0%)	2(3.4%)
Contribution to some decisions	12(20%)	7(11.7%)	8(13.8%)	3(5.2%)
Enter into most of decisions	1(1.7%)	1(1.7%)	1(1.7%)	0(0%)
No decision making	0(0%)	2(3.3%)	1(1.7%)	2(3.4%)
None	20(33.3%)	13(21.7%)	26(44.9%)	15(25.9%)
Total	35(58.3%)	25(41.7%)	36(62.1%)	22(37.9%)
	P=0,5211		P=0,2399	

Leadership

Women and youth's leadership roles in their communities are relatively important. In one way, they are central in some decision particularly when it comes to decisions and practices related to soils, water and plants conservations technics. They are also key in household productive and domestic work. Young men in particular accessing mobility have opportunities to develop and engage themselves into paid work. Young men in Boulounsi say "their Individual leadership is perceptible as 100% of the shops in the village are owned by young people". Their economic status is supposed to give more decision possibilities within their households and the communities. In point of fact these aspects could influence and give them more voices as they say it themselves. However, the socio cultural frameworks are still dominated by gender based decisions making. Because of this power relation, young men say that they run to engage themselves in politics: "Since their choice for participation in decision-making bodies is limited, young people simply register on the electoral rolls and influence elders in their own way so that their situation can be taken into account with the competent authorities" (FGD). Going from this context, how are women organized? How do women behave in public within the community to influence decisions and actions?

Women are more engaged in group membership with the saving and loans associations like the VSLA groups and the Civic groups or associations. Indeed, more than 15% of women recognize their membership within the VSLA and 10% are present as active members within the civic groups. Belonging to VSLA groups is shown to be the main way to access credit or financial support to conduct certain activities. In addition, women and youth are really more present in local political groups within the communities, this explain better the 10% of membership.



Graph 2: Credit or microfinance group (including VSLA)

Along, the influence and the capacity for women on decisions making bodies and actions within the communities is important to question. The analysis indeed questions these aspects by measure their capacity to speak in public in three main dimensions: help decide on infrastructure, ensure payment of wages for public work, protest the misbehavior of authorities or elected officials. The tables below the main results about three dimensions.

Table 23: Speaking in public to help decide which infrastructure

Feel comfortable speaking in public	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
Not at all comfortable	23(38.3%)	12(20%)	24(41.38%)	13(22.4%)
Yes but with difficulty	5(8.3%)	9(15%)	8(13.8%)	6(10.3%)
Yes easily	7(11.7%)	4(6.7%)	4(6.9%)	3(5.2%)
Total	35(58.3%)	25(41.7%)	36(62.1%)	22(37.9%)

Table 24: Speaking in public to ensure the proper payment of wages for public works or other similar programs

Feel comfortable speaking in public	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
Not at all comfortable	23 (38.3%)	14(23.3%)	19(32.7%)	13(22.4%)
Yes but with difficulty	7(11.7%)	5(8.3%)	10(17.2%)	6(10.3%)
Yes easily	5(8.3%)	5(8.3%)	7(12.1%)	3(5.2%)
None	0(0%)	1(1.7%)	0(0%)	0(0%)
Total	35(58.3%)	25(41.7%)	36(62.1%)	22(37.9%)

Table 25: Speaking in public to protest the bad behavior of the authorities or elected officials

Feel comfortable speaking in public	Intervention		Control	
	<25ans	≥25 ans	<25ans	≥25 ans
Not at all comfortable	26(43.3%)	16(26.7%)	27(46.5%)	16(27.6%)
Yes but with difficulty	3(5%)	8(13.3%)	6(10.4%)	4(6.9%)
Yes easily	6(10%)	1(1.7%)	3(5.2%)	2(3.4%)
Total	35(58.3%)	25(41.7%)	36(62.1%)	22(37.9%)

Whether it's helping to decide which infrastructure (such as small wells, roads, water supply) to build in your community, to ensure adequate wage payments for public works or similar programs, or to protest against the bad behavior of the authorities or elected officials, more 50% of women do not feel at all to speak in public.

Women feel much more at ease when it comes to protesting against the bad behavior of the authorities or elected officials. The democratic renewal of October 2014 and September 2015 could help explain this. The direct observation during the focus group discussions have also demonstrated women leadership, speaking and participation capacity. The qualitative data add on by underlining that if young woman can read and write, they can easily access some positions in community organizations in the Local development Comity known as CVD³, VSLA groups as secretary or treasurer. Before there were young women municipal councilors in the village. In village like Boulounsi 5/15 members are young people within the executive committee of the CVD.

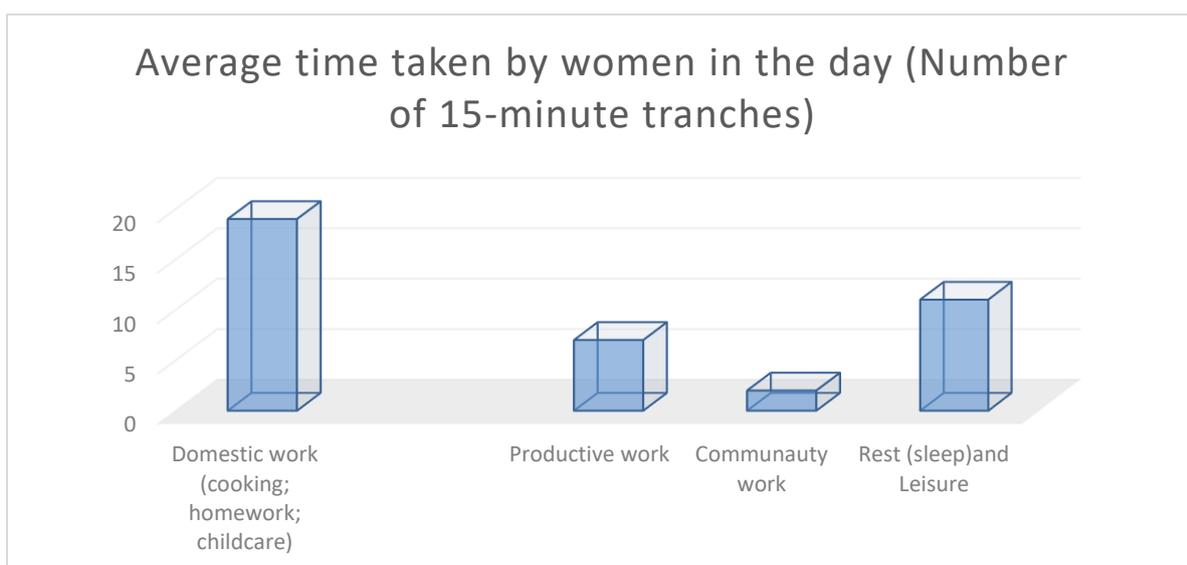
However, in one community (Sorogo) the young people and the women appear to be less at ease with their capacity to speak up in public and influence decision in public and community levels: “The analysis above is underlying that since youth do not have much influence with the local and traditional institutions and arenas, they all run into politics. Indeed, the capacity to speak in public to protest the bad behavior of authorities or ensure proper payment of wages seems sensitive to age because youth participation come to be strong.

Time

To have time, to use adequate time and to control time come to be one the key question necessary to better measure the empowerment status of women and youth. Its's not indeed enough to get access to productive resources if their do not have adequate time to work on it. It is also not useful to have the possibility to access market if at the end of the harvest season they have harvest so little that could be sold. Women and young people have drawn attention on their time constraints: “even in their own fields, they say they do not have an easy cubit to organize their calendar as it should” (FGD); “they lack time to work in their own field. They work either very early in the morning with torches or in the evening after fieldwork in the family field” (FGD); and that “They have to organize their time taking into account that of the collective fields so as not to compromise the interest of the family” (FGD). Indeed, the morning and evening time allocation from the survey show that women spend 19 hours in domestic work and 7 hours in productive activities. It is important to mention that the data collected in this research (December 2016) do not share the burden context and time of the raining season.

Leisure time in the same context comes to be low. Most of the rest and leisure is related to sleeping time.

³ Comité Villageois de Développement



Graph 3: Women daily calendar

3.3 Correlation with others measures

An additional analysis allows us to combine few individual variables with some of the WEAI domains. Indeed, how does the capacity to read and write influence the contributions to decisions making within the food crop production? It appears that 21 women who have inputs in production decision making, don't know how to read and write; while 13 women who have the same level of inputs to production, can read and write.

Table 26: Cross tabulation between « can read and write » and into decision making about food crop production

Ability to read and write		Decision making about food crop production					Total
		No contribution or contribution to some decision	Contribution to most decisions	Enter into most decision.	No decision making	None	
Cannot read and write	11	17	4	5	0	37	
Can read only	0	0	0	1	1	2	
Can read and write	3	9	4	3	2	21	
Total	14	26	8	9	3	60	
P=0,039							

There appears to be a relationship between women's ability to read or write and their participation in subsistence agriculture ($p < 0.05$). In other words, the more women cannot read or write, the better they participate in making decisions about subsistence farming.

Table 27: Cross tabulation between writing and reading capacity and input to cash crop production decision making

writing and reading capacity	Decision making about cash crop production					Total
	No contribution or contribution to some decisions	Contribution to some decision	Enter into most decisions.	No decision making	None	
Cannot read and write	1	17	3	1	15	37
Can read only	0	0	0	0	2	2
Can read and write	3	10	0	1	7	21
Total	4	27	3	2	24	60
P=0.442						

It appears again that more women cannot read or write, the better they participate in making decisions about cash crop farming ($p > 0.05$).

Table 28: Cross tabulation between writing and reading capacity and participation in decision-making regarding livestock production

Writing and reading capacity	Decision-making regarding livestock production					Total
	No contribution or contribution to some decisions	Contribution to some decisions	Enter into most decisions	No decision making	None	
Cannot read and write	3	14	1	6	13	37
Can read only	0	1	0	0	1	2
Can read and write	3	5	0	3	10	21
Total	6	20	1	9	24	60
P=0.920						

There is no significant relation between reading and writing capacity and women inputs to decision making about small ruminants and poultry activities ($p > 0,05$).

3.4 The Five Domains of Empowerment (5DE)

The indicators assessing the five domains of empowerment demonstrate that 22.39% of women in Intervention zone are empowered and 77.61% of women in Intervention are not empowered. In the control zone the women who show an improve state of empowerment are 17,99%. 82,01% of women in Intervention are not empowered

Table 29 : Five Domains of Empowerment (5DE) decomposed by dimension and indicator for women

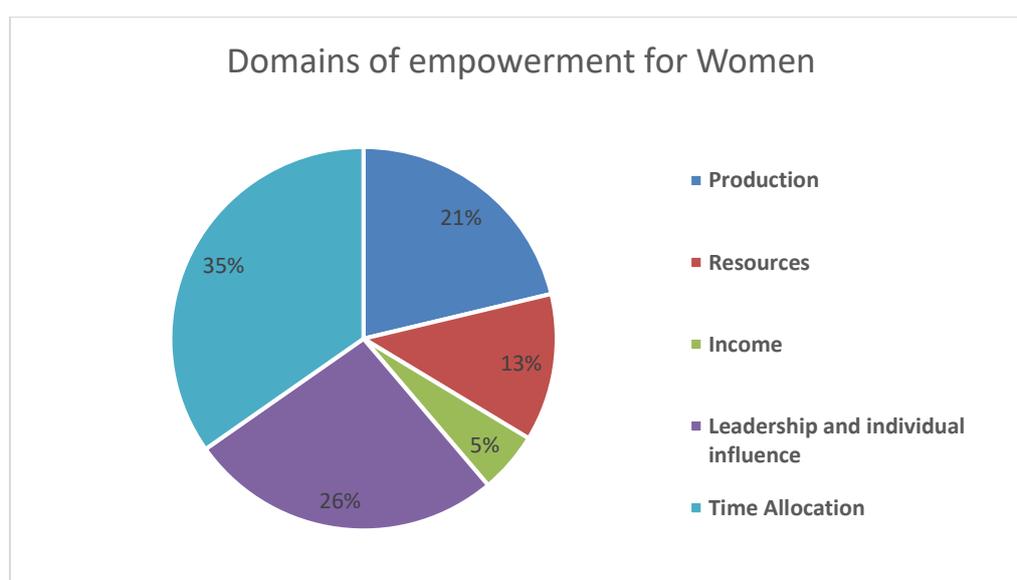
Domains of empowerment	Indicators	Ratio	Result in Intervention zone	Result in Control zone
Production (role of women in Decision within the household regarding the agricultural production)	Input in production decision	1/10	0.021667	0.00344828
	Autonomy in production	1/10	0.015	0.00689655
Resources (women's access to capital productive)	Ownership of assets	1/15	0.004444	0.00114943
	Purchase, sale and transfer of assets	1/15	0	0.00229885
	Access to and decision about credit	1/15	0.011111	0.00574713
Income control by women	Control over use of income	1/5	0.013333	0.01034483
Leadership and individual influence Women in the community	Group membership	1/10	0.026667	0.01551724
	Speaking up in public	1/10	0.041667	0.04827586
Time Allocation for Women	Work load	1/10	0.045	0.0862069
	Leisure	1/10	0.045	0.0862069
Total		1	0.223889	0.17988506
		He	22.39%	17.99%
		Hn	77.61%	82.01%

He=22.39% of women in Intervention zone are empowered

Hn=(1-He) =77.61% of women in Intervention are not empowered

He=17.99% of women in control zone are empowered

Hn=(1-He) =82.01% of women in control zone are not empowered



Graph 4: Proportion of the different domains of empowerment

However, it comes to be interesting to also measure the empowerment at each domain level. This gives more light on the domain that needs more attention within any interventions or policies

actions. Indeed, we find more women in the intervention zone who are satisfied with their work time allocation, who “participate” into production’s decision making (being alone or joint decision making), who are comfortable speaking up in public.

Besides, we could read that women access to purchase, sell and transfer assets and their control over the incomes they get are very weak. The mention about decision and access to credit is also a sub domain where women do not have power. The opportunities about credit remain local opportunities in the VSLA groups and cannot foster a rapid and real change.

Comparatively, in the control zone, women satisfaction come to be very weak within almost all domain of empowerment. Only the work load and the capacity to speak in public seem important to notify.

It is important here to pay attention with this analysis on how to understand and use the term “input” or “participation”. Indeed, in the qualitative analysis, it comes very clearly that women participation and input definition is related to their traditional role in domestic and productive work. They define “participation” or “input” into decision making as their part (role) of involvement in the activity may it be food crop, cash crop, soils /plants conservation or livestock activities. For example, women and youth have mentioned that elders and their family members cannot do much while it come to conservations technics and practices because these practices required workforce meaning women and youth involvement. Moreover, it has been mentioned earlier that women work in gardening activities becomes more and more important. So these findings could indeed impact of women’s opportunities to bring input on their own cash crop production. This finding pushes us to take with caution the number within the sub domain of Input in production decision.

Another caution is within the time allocation for women. It can be read, both in the intervention and the control zone, adequacy of women work load while the data has been collected in the dry season in December where the work load of women is relatively low.

3.5 Computing WEAI by zone

The overall WEAI scores are presented in the below tables. The score is composed of the 5 Domains Empowerment index and the gender parity index ($WEAI=0.9*DE+0.1*GPI$). The 5 Domains of Empowerment in the intervention zone for women is around 53.43% and the gender parity score from the comparison with the men 5 domains of Empowerment is around 72.12%. In the intervention zone the index of women empowerment in agriculture is 0.55 for 22.39% of women. The index WEA within the control zone for women is 0.53 for 17.99% of women in the Northern Region of Burkina Faso.

Table 30: WEAI computation in Intervention and control zone

		Intervention zone	control zone
	He	22.39%	17.99%
	Hn	77.61%	82.01%
	Aa	40%	40%
5DE= He+Hn(Aa)	5DE	53.43%	50.79%
	GPI	72.12%	71.53%
WEAI=90%*5DE+10%*GPI	WEAI	0.55	0.53

5DE: Five Domains of Empowerment **GPI:** Gender Parity Index

Aa: Percentage of dimensions in which disempowered women have adequate achievements

He: Percentage of women and youth who are empowered

Hn: Percentage of domains in which those women and youth who are not yet empowered

WEAI: Women Empowerment in Agriculture Index

The proportion of women present such score in the intervention villages is 22.39%.

77.61% of women in the intervention villages are then disempowered. The proportion of disempowered women within the control villages is 82.01%.

It is important to note that index score is very low if both zone and particularly for the control area.

Indeed, the proportion of women who are empowered is 17.99%. This figure is well below the proportion of the women in the intervention zone. This difference could be explained by the implementation of dryland system activities in the area of intervention.

As illustrated in following Table, the age of women appears to be associated with the adequacy of the various indicators in the area of intervention. Indeed, 69% of women under 25 have a good contribution to decision-making, compared with 7.6% for older women. It is the same for control over the use of income. Looking further, it can be seen that women in the intervention area who have adequate scores are relatively good in terms of time allocation, leadership and influence in the community. Overall, 22.39% of women are empowered and the WEAI is 0.55. This score, although slightly higher than that of the control zone, is still below acceptable limits. According to the WEAI methodology, the high score is 0.85 or higher. The median score is between 0.73 and 0.84; The low score is 0.72 or less.

Table 31: Cross tabulation Age and Empowerment proportion in the intervention zone

Age group	Input in production decision		Autonomy in production		Ownership of assets		Purchase, sale and transfer of assets		Access to and decision about credit		Control over use of income		Group membership		Speaking up in public		Work load		Leisure	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
<25	9	27	3	33	1	35	0	36	4	32	4	32	9	27	13	23	16	20	16	20
25-45	0	15	1	14	1	14	0	15	5	10	0	15	5	10	8	7	9	6	9	6
46-59	3	1	4	0	2	2	0	4	0	4	0	4	0	4	0	4	1	3	1	3
>=60	1	4	1	4	0	5	0	5	1	4	0	5	2	3	4	1	1	4	1	4
Total	13	47	9	51	4	56	0	60	10	50	4	56	16	44	25	35	27	33	27	33

How could we really grasp if the above results analysis is related to Dryland systems program implementation in these interventions zones, if we do not proceed a comparison. We did not have in our possession a baseline study to compare if the number we see here depends on the gender mainstreaming activities undertaken by the partners. We then integrated in the research approach, a comparison methodology within control zones. These control zones as stated in the methodology share a lot of similarities with the intervention zones such as geography (same region), biodiversity, climate, biogeography characteristics, culture, gender relation and ethnicity (Moose and Fulani). Given these similarities within their background characteristic, what difference could we understand in the gender relations on light of the five domain of empowerment.

The observation data and focus group discussion have showed how much soils, plants and water conservations practices, technics and trainings were present and in use in the different interventions villages. Men, women and youth have reported indeed receiving training on land conservation techniques, seeds adapted to their locality, reforestation techniques etc. Women in particular have stated that they have been concerned by the training and that they have planted trees such as baobab and Moringa in their own fields. From this concrete data, hypothesis could mean that men and women in the communities are working together to build a resilient environment and context. However, these activities around conservation practices do not improve land access or any other resources that could be necessary for women to equally participate and benefit from the practices. Zai, stones retaining walls, organic manure, half moon, etc. are done primary in the main farm before any farm and by women and youth as the young men stated: "They are solicited mainly for the conservation of agricultural land specially the realization of stony cords on arable land; The realization of improved zai; the Participation in composting (organic fertilization); on clearing the fields and placing *Andropogum Gayanus* hedges" (FGD). When it comes to women working lands (beolsé), they do not benefit help to properly conduct these technics. Also the organic manure produced at the household level mainly by women is used for the main farm. Women say they cannot have access to the compost resources; they will pick up or collect themselves cow dung everywhere to fertilize their field and proceed with zai technics in their farms. So the conservation behavior even though important benefit more to men and heads of household comparatively to women and youth. An additional finding from these conservation practices is that women and youth engage themselves into paid work to conduct these technics outside the households. So there is a relatively economic opportunities generated from the Dryland system program intervention for youth and women in these villages. Moreover, using the technics could in other way exacerbate land ownership within the villages. For example, plants conservations' technics is showed to be more male property than women and youth.

Besides, the comparison with the control zone gives interesting findings. Indeed, it comes that Dryland systems program implementation has shown some significances given the comparison results with the control zone. The Five Domains of Empowerment (5DE) could easily show that there is an improvement in women and youth empowerment in the intervention zone. 22,39% of women in Intervention zone are empowered while only 17,99% of women in control zone are empowered.

IV. Conclusion

The present gender strategic research conducted in northern Burkina Faso has assessed impacts of gender mainstreaming interventions on women's and youth's empowerment in the dryland systems program. Specifically, it has been carried out in the dryland systems program site in the province of Yatenga, Zandoma and Passoré. Based on quantitative and qualitative research methodologies, interviews have been carried out with questionnaire administered to 260 households in the intervention and control zone.

Although the study showed that women in the intervention area were more empowered than women in the control area, it should be noted that the WEAI score in both areas remained low and below the median score. In fact, according to the WEAI methodology, the high score is 0.85 or higher; the median score is between 0.73 and 0.84; the low score is 0.72 or less

In the area of intervention, the age of women appears to be associated with the adequacy of the various indicators. Indeed, 69% of women under 25 have a good contribution to decision-making, compared with 7.6% for older women.

The main domains that have contributed to improving the empowerment of women in the area of intervention are the production (35%) and the leadership and individual influence (26%). While these data give light on who has the power in the different domains in the intervention zone, and show how women and youth still have little opportunities and capacities for change and more rights, we could demonstrate however that the program has some influence on the status of empowerment. Comparing the results with the control zone indeed demonstrate that the proportion in the control zone is lower than the proportion in the intervention zone. The WEA index is 0.55% for the intervention zone and 0.53% for the control zone.

However, an appropriate gender mainstreaming interventions and gender specific approaches are needed to ensure more equity with the Dryland Systems Program's intervention technics and methodologies.

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