



## BRACED – Building Resilience and Adaptation to Climate Extremes and Disasters (January 2015 – June 2019 – Grant: 7.2 million GBP)

Burkina Faso is among the poorest countries in the world, ranked 183 out of 189 countries in the 2017 Human Development Index. With nearly no major industry apart from mining, the country's economic activity relies heavily on subsistence agriculture and livestock production. A vast majority of the population lives below the poverty line with a significant proportion chronically undernourished. The country's high population growth has led to rising demand for food and increasing pressure on the land, as the scarcity of arable land and water limit domestic food production. Increasingly frequent and severe climate extremes involving variability in rainfall, rising temperatures, droughts and flooding have exacerbated food insecurity and malnutrition across the country. This situation has been compounded by the deteriorating security situation in the country, which no longer only affects the population in North-western and North-eastern border zones with Mali and Niger, but since November 2018 also the population of the Northern, North-Central and Eastern regions of the country.

### What did Welthungerhilfe's BRACED project do?

With a grant of 7.2 million GBP of the government of the United Kingdom the Welthungerhilfe consortium implemented the BRACED project in the Centre-Nord and Plateau-Central regions of Burkina Faso, reaching out to 1.3 million rural people that were vulnerable to climate extremes and disasters. To reach out to so many people, Welthungerhilfe collaborated with 4 local NGOs (Association de Développement Sougri Nooma, Association Zood Nooma de Développement, Projet Ecologie et Réboisement and the

Federation Wend Yam) and with Self Help Africa. At regional and provincial level these local partners worked closely together with the extension services of the Ministry of Agriculture, the Ministry of Environment and the Ministry of Animal Resources, whereas the National Weather Service and the Department of Plant Protection and Packaging were important central government partners.

BRACED was based on the notion that a multi-layered approach was required to strengthen farmers resilience to climate extremes and to enhance food security. First of all, BRACED supported vulnerable rural communities to enhance rainfed crop production by reinvigorating climate smart

practices, such as revitalising soils through Zai pits, half-moons and composting practices, and by promoting the use of high yielding drought tolerant seeds. Secondly, the project supported rural farmers to increase, diversify and market their agricultural production, specifically in the following value chains: (1) wetland rice cultivation; (2) cassava production and processing; (3) market garden production; (4) poultry production, and; (5) processing non-timber forest products (shea butter). The development of these agricultural value chains was considered crucial for poverty reduction and greater food security. BRACED provided agricultural inputs, essential equipment and infrastructure for crop production, such as wells, water supply and irrigation equipment, storage facilities and processing equipment, and invested in improving farmers' technical skills. The project also strengthened the organisational and entrepreneurial capacity of farmer groups and beneficiaries across all five value chains, helping farmers to establish cooperatives to share resources, establish commercial relationships and access financing.

Finally, the project worked with national and local government and community radio to inform farmers about climate change and to strengthen local capacity to adapt to climate extremes by facilitating the dissemination of daily, weekly and seasonal weather forecasts to rural communities, piloting phytosanitary services in remote areas and supporting the development of local climate adaptation plans.

## Reviving cassava production



Whereas cassava is not a common crop in much of BRACED's project area, it used to be important in the Boussouma district of the Sanmatenga province as the soils were suitable for cassava cultivation. But cassava production collapsed considerably as the local cassava variety was no longer well-adapted to the changing climatic conditions. It was also difficult to continue cultivating cassava without proper fences when the cattle of pastoralists passed through the district seasonally. BRACED made it possible to reintroduce cassava production in the Boussouma district as a key element of

subsistence agriculture by establishing fences and using a new cassava variety (V5). This variety has a relatively short growing period (6 months), but can be kept in the soil for a considerable period of time and can be harvested at any time. The tubers can be stocked for some time without risking being rotten, and there is a market everywhere in Burkina Faso. BRACED has also introduced cassava to the Loubila area, where it now complements the relatively wide-spread vegetable production. Overall, more than 700 people (52% women) got engaged in cassava cultivation and processing in these two districts, contributing to advances in food security and income, as cassava serves both as a staple and as a cash crop. In 2018/19 the farmers in the Boussouma district e.g. produced 572 tons of cassava on 40 ha (14.3 t/ha). Even though the market prices were relatively low in 2019, the Boussouma cassava farmers made 7.3 million XOF by selling 158.4 tons of cassava sales on the local market and to local cassava processors during the first quarter of 2019 (on average 193,185 XOF per farmer leading a cassava garden).



BRACED also established three cassava processing units in Balbo, Biguissi and Loubila, which became operational at the end of 2018, engaging about 20 women per unit. The potential for cassava processing is underscored by the experiences of the processing unit in Loubila, which made a quarterly turnover of 588,080 XOF between January and March 2019.

## Exploiting the wetland rice potential

Across Burkina Faso there remains an untapped potential in rice production, as large stretches of low-lying wetlands have not been developed for irrigation. Supporting wetland rice production during the rainy season could contribute to resolving food insecurity, particularly as rice is considered a welcome complement to rural people's staple foods (millet and sorghum). Building on local farmers' interest in taking advantage of the opportunities for rice cultivation, BRACED successfully developed 6 wetlands for rice production, altogether comprising 70 ha of wetland and benefitting 837 beneficiary households. BRACED also supplied the farmers with rice seeds, fertilizer and urea, and coached them in the technical aspects of rice production.



Despite erratic rainfall, the project achieved very positive results for beneficiaries who had previously attempted rice cultivation but had failed due to the lack of suitably developed land, information and certified rice seed on the local market. In collaboration with the agricultural extension services and the beneficiary communities, BRACED transformed these low-lying wetlands into suitable areas for rice cultivation that yielded 2.4 to 3.6 tons of rice per ha. In the process Welthungerhilfe helped to improve access to land especially for poor people and women and strengthened vulnerable farmers' resilience to climate extremes, as value was added to their land and because they could stock wetland rice for up to 5 months after the harvest season. Some farmers also made some income by selling surplus rice.

*“We are no longer surprised to see a poor man eat a daily plate of rice”*

Welthungerhilfe's support to wetland rice production also reinforced the social cohesion between households working on rice cultivation, increased the frequency of rice consumption and diversified the diet of rural people who would otherwise not have consumed any rice.

## Poultry production with women

In Burkina Faso, poultry constitutes an integral part of rural people's livelihoods. It is also a priority in the national policy framework, but its potential for rural income generation has not yet been fully exploited. In Mossi villages in the BRACED project area, poultry are usually kept in people's courts, but not necessarily marketed, representing a missed development opportunity. BRACED unlocked the potential for poultry rearing and marketing in the Centre-Nord and Plateau-Central regions by training and equipping 1200 women. The project distributed approximately 8,400 chickens and 1,200 cocks, as well as 1200 kits of poultry equipment and materials for poultry shelters. One of the main challenges around this activity was controlling diseases to avoid loss of productivity,

therefore the project also trained Village Poultry Vaccinators (VPV) and beneficiary women in sanitation and hygiene practices. For sustainability purposes, Welthungerhilfe and its local partners involved extension officers of the Ministry of Animal Resources and of CVP/AVI in training and monitoring of the poultry initiative.



Although decision making around poultry used to be the men's prerogative in the Mossi culture, beneficiary women were enthusiastic about poultry rearing, as they gained new skills, became confident in rearing healthy chicken and managed to generate some income by selling chicken periodically at local markets or to poultry collectors. Engaging women in poultry production has contributed to tangible financial benefits (on average the women earned 34,000 XOF to 47,500 XOF per quarter in 2018) and an improved social status and greater independence for women amongst the poorer segments in the rural areas. Poultry production and marketing have also had positive effects for the entire household, as the additional income is often used to buy cereals in the lean season, or invested in small stock, household utensils and occasionally in bicycles or the construction of a new dwelling in the compound. The activity has also had wider catalytic effects as many non-beneficiary women in the areas have taken up poultry rearing based on what they have seen from BRACED beneficiaries.

## The rectangular Ruudu: increasing market garden income

BRACED developed 75 market gardens sites, engaging 3,843 beneficiary farmers during the first 3 years of the intervention. During the fourth year BRACED consolidated its market garden support for 47 gardens, supporting 2,010 producers (81% women). BRACED facilitated the access to land for relatively poor and vulnerable women and men and invested in the digging of wells, water supply and irrigation equipment, and contributed a part of the seeds and fertilisers required. The agricultural extension services and the local partners provided technical support. The most important crops were onion

(violet de galmi), tomato, okra and sorrel. Throughout the BRACED implementation period the market gardens provided a welcome source of additional income to women and contributed to the improvement of the diet of the beneficiaries' families, as part of the produce was consumed at home. The improvements in diet and income were an important factor in strengthening women's resilience, as the income helped their families throughout the dry season and the lean season. The income earned also enhanced women's social status, made them more independent and gave them more influence on decision-making within the household. Beneficiary women were usually worked together in the gardens under the leadership of a management committee. Thus, the project had a positive effect on the social cohesion in communities with market gardens.



To ensure that the beneficiary women would get the most out of their gardening efforts, BRACED invested in the construction of 85 post-harvest storage facilities such as the rectangular ruudu and the arziki in 2018/19, which allow onion to be stored for up to six months. Farmers can fetch better prices for stored onion, as market prices are rather low shortly after harvesting when the supply is large. In this way beneficiary farmers managed to double their seasonal revenue on a 200 m2 market garden plot from 81,000 XOF to 160,000 XOF per farmer.

## Climate Smart Agriculture

BRACED promoted climate smart agriculture by training lead farmers in soil conservation techniques such as Zai pits, half-moons and composting practices. In collaboration with the agricultural extension services 681 lead farmers (174 lead farmers for Zai practices and 507 female promoters of composting techniques) were trained, whilst the local partner organisations distributed basic tools and locally developed certified improved (drought resistant) seeds. During the 2018/19 agricultural campaign the project moreover trained and equipped lead farmers in donkey-drawn ripping techniques, so that they - and their neighbours - could develop

larger areas of land with Zai pits. Between April 2015 and March 2019, these lead farmers and the local partner organisations reached out to 53,723 farm households, meaning that 437,745 individuals benefitted from increases in agricultural productivity during the implementation period, with positive effects on household food security.



The table below underscores that the 2018/19 yields for sorghum, millet, maize and cowpea were considerably higher than the regional averages recorded by the Ministry of Agriculture.

Crop	Yield per hectare (2018/19)	Variance with regional average
Sorghum	1.2 – 1.3 t/ha	+43% to +46%
Millet	0.8 t/ha	+27%
Maize	1.9 t/ha	+146%
Cowpea	1.0 – 1.3 t/ha	+43% to +208%



## What made the project special?

### *Official climate and weather information on community radio*

To be able to anticipate climate extremes and to adapt to the variable rainfall patterns, access to climate information and weather forecasts is essential for farmers. Therefore, BRACED worked the National Meteorological Service and 6 community radio stations to disseminate daily, weekly and seasonal forecasts to the rural population in the project from May to October each year. A service provider was engaged to translate ANAM's scientific forecasts into comprehensive information for farmers before it was disseminated via radio. Daily forecasts were also disseminated to lead farmers and extension officers via mobile telephone. To be able to provide accurate weather forecasts, Welthungerhilfe provided ANAM with 20 automatic weather stations to strengthen the network of weather stations, which feed meteorological data to ANAM's data server every 10 minutes. Each year the seasonal weather forecast for the project area was published on posters, which were disseminated amongst a network of extension officers and lead farmers. In this context, 64 extension officers and 192 lead farmers received training annually in understanding and interpreting the daily and seasonal weather forecasts of ANAM, and the extension officers subsequently paid monitoring visits to the lead farmers during the rainy season. During such visits the extension officers checked if the lead farmers monitored rainfall correctly and together with the farmers they evaluated if the rainy season evolved as was predicted in ANAM's seasonal forecast and they also advised local farmers on suitable climate change adaptation measures. Furthermore, 27 local authorities developed annual adaptation plans based on ANAM's seasonal forecast through participatory planning workshops with representatives of the farming community and extension officers. Through the above-mentioned partnerships 632,534 persons gained access to weather and climate information during the rainy season and 94% of this group stated that they used the information they had received for agricultural decisions, such as changes to the agricultural calendar, crop rotation, the selection of plots of land and seed varieties for cultivation, investing time and energy in climate smart practices such as Zaï pits, half-moons and composting basins.

### *Plant clinics*

In collaboration with the Department of Plant Protection and Packaging of the Ministry of Agriculture, the project trained 64 agricultural extension officers as so-called Plant Doctors, who reached out to farmers in the all 32 districts of the BRACED project area by organising so-called Plant Clinics. During the clinics, farmers obtained advice on the treatment of phytosanitary problems in their fields and gardens. Between

2015 and 2019 the Plant Doctors held 1,491 Plant Clinic sessions. A total of 36,697 farmers (46% women) participated in these sessions and received phytosanitary advice on the treatment of pests and diseases that affected their crops, thereby reducing crop losses in crop fields, wetlands and market gardens across the project area.

### *Gender*



To provide women with access to land and opportunities to generate income, BRACED specifically targeted women with agricultural activities such as the distribution of certified improved seeds, composting, poultry rearing, the processing of cassava and NTFPs and market gardening. As far as wetland rice (61% women) and cassava production (52% women) was concerned, BRACED demanded that women get at least equal opportunity to participate. The strong involvement of women has had a positive effect on women's income with positive effects on their nutrition and health. Many women gave testimony that they used the income gained to the benefit of household and their children, e.g. school fees or health related expenditure, which were traditionally the responsibility of men. Women's income is also used to help families through the lean season and has as such contributed to food security and to strengthening the resilience of women and their families. Some women also managed to set aside some money to purchase a bicycle, or to invest in chicken, small stock or the improvement of a dwelling. Women and men reported that women had got more influence on decision making in the household, as they were increasingly consulted by their husbands, who in the past would have taken many decisions themselves. The social status of women in BRACED communities had also improved, as women not only participated in project activities and generated income, but also fulfilled leadership roles as lead farmers (e.g. in composting practices) or as members of the management committee of gardening and wetland rice projects. The Institute of Development and Peace of the University of Duisburg Essen concluded that *"BRACED's social effects on the communities and above all on gender equality and women's empowerment should be emphasised. Since beneficiaries were*

*organised in producer groups and motivated to work together, they felt that the social relationships among them were enormously strengthened. Communities have been pulled together more strongly, which led to an improvement of the mutual help and support in the villages. Furthermore, beneficiaries stated that BRACED's activities have created a new spirit of open-mindedness, especially regarding women's involvement and participation in decision-making at the household level. The activities and their results have made most men understand the significance of their wives' contribution to the household's wellbeing as well as their importance for the general development of the village, although participation in decision-making at the village level still requires more efforts and time".*



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### BRACED in figures 2015 - 2019

- 477,034 individuals supported in agricultural production
- 632,534 individuals supported with climate information services
- 437,745 individuals benefitted from increased agricultural productivity
- 56% of beneficiaries were food secure in March 2019, up from 31% in 2015
- 83% of beneficiaries were resilient to climate extremes in March 2019, up from 24% in 2015
- 70 ha developed for wetland rice cultivation (837 beneficiaries; 61% women)
- 75 ha developed for market gardening (3,843 beneficiaries; 78% women)
- 60 ha fenced for cassava production (705 beneficiaries; 52% women)
- 3 cassava processing factories established (60 women)
- 5 NTFP processing groups supported (160 women)
- 1200 women trained in poultry rearing
- 116 village poultry vaccinators trained
- 681 lead farmers trained in climate smart agriculture, reaching out to 53,723 farmers over a period of 4 years (Zai, composting, certified improved seeds)
- 40 cooperatives established
- 1248 community leaders trained in organisational and entrepreneurial skills
- 192 lead farmers trained in local rainfall monitoring
- 1,491 Plant Clinic sessions organised, benefitting 36,697 farmers.