

## Project Update: January 2022

1. Following the planning of our project, a semi-structured interview was undertaken between July and August 2021 in five localities of central and northern Benin where the remaining individuals of the species are found. A total of 252 informants were interviewed. Personal characteristics of the respondents (sex, age, ethnic groups, etc.), perception of the species status, categorisation of the species changes (i.e., if the species has disappeared, decreased or increased), local strategies for the species conservation were recorded. Table 1 presents the number of informants in function of their localities, ethnic groups, sex and age.

Table 1. Repartition of respondents according to localities, ethnic groups, sex and age

<b>CHARACTERISTICS</b>	<b>NUMBER OF INFORMANTS</b>	<b>PROPORTION (%)</b>
<b>LOCALITIES :</b>		
DASSA-ZOUME	34	13.50
GLAZOUE	30	11.90
PARAKOU	62	24.60
SAVALOU	62	24.60
TCHAOUROU	64	25.40
<b>ETHNIC GROUPS :</b>		
Mahi	35	13.89
Fon	16	6.35
Bariba	66	26.19
Nagot	81	32.14
Dendi	17	6.75
Peulh	21	8.33
OTHERS	16	5.63
<b>AGES (IN YEARS) :</b>		
YOUTH (18-30)	66	26.19
ADULTS (31-60)	160	63.49
OLD PEOPLE (61 and older)	26	10.32
<b>SEX :</b>		
Female	18	7.14
Male	234	92.86

Some pictures taken during the interviews are shown below.



Figure 1. Interview with local people

Table 2 presents the parts of *C. bonduc* used by informants. The main parts of the species used to treat diseases are leaves, seeds and roots.

Table 2. Main parts used and the associated use forms

PARTS	USE FORMS	NUMBER OF INFORMANTS
LEAVE	Vomiting treatment	79
	Oedema treatment	115
	Child head disease	30
SEED	Game domino	140
	Edematous	4
ROOT	Prevention of prostate gland diseases	71
	Sexual weakness	84
	Stomachache	53

The figure 2 shows a seedling of *C. bonduc* in a house yard.

The opinion of local communities about the changes in *C. bonduc* abundance is shown in Table 3. They appreciate differently the changes in the species. The results indicate that 28.17 % of local people think that abundance of the species has decreased while 46.83 % of them think that the species has disappeared.



Figure 2. A seedling of *C. bonduc*

Table 3. Opinion of local people about the changes in *C. bonduc* abundance

Opinion about the changes in <i>C. bonduc</i> abundance	Proportion of Informants (%)
Decreasing	28.17
Increasing	0.4
Stable	23.01
Disappeared	46.83
Others	1.59

The main causes of disappearance and decrease of *C. bonduc* are root overexploitation (53.97% of informants), pharmacopoeia (15.08%) and agricultural expansion (15.08%) (Table 4).

Table 4. Main causes of disappearance and decrease of *C. bonduc*

Opinion about the possible causes of disappearance and decrease of <i>C. bonduc</i>	Proportion of informants (%)
Vegetation clearance for agricultural expansion	15.08
Overexploitation of the roots	53.97
Use of the plant parts for traditional pharmacopoeia	15.08
Building materials cuttings	0.79
climate change	13.89

About 41.00 % and 37.00 % of the respondents think that there is respectively a very urgent and urgent need for conservation of the species (Figure 3).

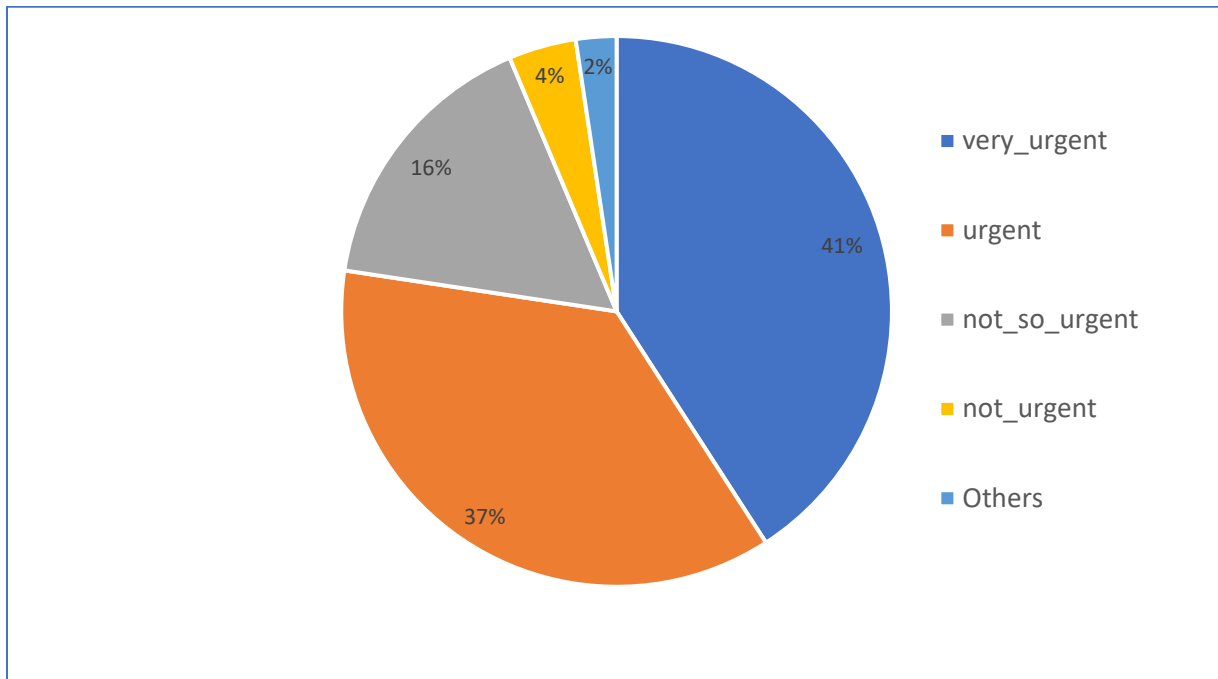


Figure 3. Need for conservation of *C. bonduc*

The most used strategies for conservation are harvesting reduction (53.17 %), and seedlings protection (27.38 %) (Table 5).

Table 5. Strategies for conservation of *C. bonduc*

Actions developed for <i>C. bonduc</i> Conservation	Proportion of informants (%)
Seedling protection in farms	27.38
Reduction of harvesting of parts	53.17
Plant nursery and pricking out in field	11.11

Conservation of seeds in garret or jar	9.13
Practice of apiculture favouring pollination	0.4
Others	1.98

2. In concordance with our project, geographical coordinates of all individuals of *C. bonduc* were recorded through three transects established per locality in central and northern Benin between October and November 2021. Each transect was 3 km long following a band of investigation of 200 m on each side of the transects. Occurrences of the species were also extracted from already existing databases for West Africa (<http://www.gbif.org>). Bioclimatic and soil variables were downloaded respectively from Africlim website ([www.africlim.org](http://www.africlim.org)) and Africa Soil Profiles Database (<https://www.isric.org>).

A total of 241 occurrences were obtained (Figure 4) with 192 from field inventory and the others from [www.gbif.org](http://www.gbif.org).

A manuscript entitled 'Predicting the potential impacts of climate change on the endangered *Caesalpinia bonduc* (L.) Roxb in Benin (West Africa)' has been produced from the data and is currently under review in Heliyon journal. Through this paper, the suitable areas for the cultivation of the species have been identified.

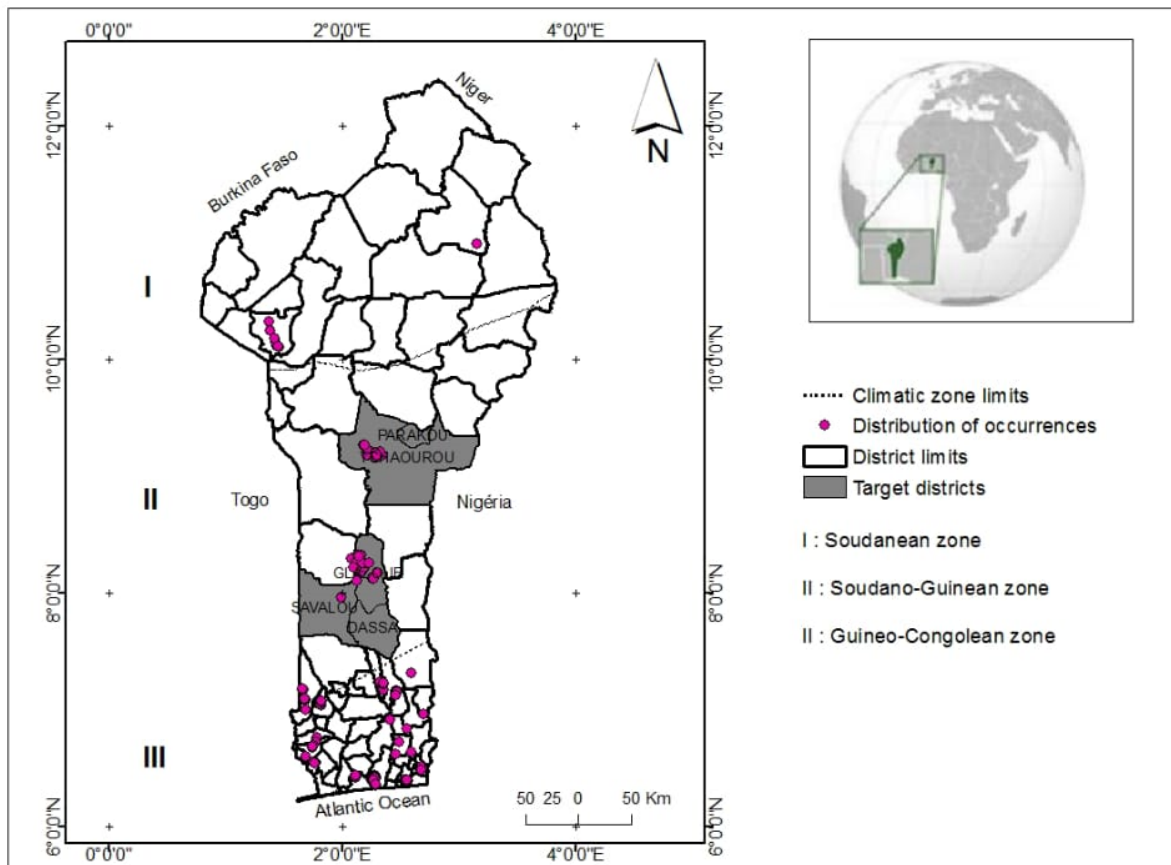


Figure 4: Geographic distribution of *C. bonduc* records across the study area.

3. A total of 300 leaflets have been prepared on the different steps of production of *C. bonduc* in nursery and shared during the surveys and training workshops. The first page of the leaflets is presented below.

