CH Cadre Harmonisé

MODULE 4: FUNCTION 2 - CLASSIFICATION OF SEVERITY AND IDENTIFICATION OF KEY DRIVERS

SESSION 4.10 STEP 4 – POPULATION ESTIMATION

OUTLINE

- Objectives
- General principles of population estimation
- Population estimation tools
- Population estimates by severity phase for the current situation
- Population estimation approach for the projected situation
- Exercise

OBJECTIVES

At the end of this session, participants will be able to:

- master the procedures for estimating populations in current and projected situations;
- distribute the population by phase of severity of food and nutrition insecurity;
- complete the Table 4-A and 4-B of population estimates.

GENERAL PRINCIPLES OF POPULATION ESTIMATION

- Population estimation is a complex exercise that requires the convergence of evidence but certainly **not a mathematical formula;**

- It consists of distributing the populations of an analyzed area by level of severity (phase) of acute food and nutrition insecurity;

- It is done once the classification of the phase of the zone is determined by consensus (see step 3).

GENERAL PRINCIPLES OF POPULATION ESTIMATION

- **The basic principle is compliance with the 20% rule: this means that once the area has been phased (step 3), at least 20% of the populations in this zone are distributed in this phase or worse.**
  - ***For example, if the area is classified in phase 2 (under pressure), the sum of the population proportions of phases 3 to 5 must be less than 20% and;***
  - ***the sum of the population proportions of phases 2 to 5 must be at least 20%. See figure below for illustration***

3rd administrative level	Total population	Area classification	Percentage of households affected by each phase Period :				
			Ph1	Ph2	Ph3	Ph4	Ph5
SALEMATA	26,920	2	54%	37%	9%	0%	0%

sum of the proportions of phases 3, 4 and 5 must be less than 20%. On the other hand, by adding the proportion of phase 2 in black, the sum must be at least greater than 20%

GENERAL PRINCIPLES OF POPULATION ESTIMATION

- To distribute the populations of an area by phase of severity of acute food and nutrition insecurity, it is necessary to start by estimating those likely to be in phase 5,

- Then gradually evolve towards the lower phases (phases 4, 3, 2 and 1) and based on the description of the phases contained in the reference table of the CH manual as indicated in the figure below.

3rd administrative level	Total population	Area classification	Percentage of households affected by each phase Period :				
			Ph1	Ph2	Ph3	Ph4	Ph5
SALEMATA	26,920	2					

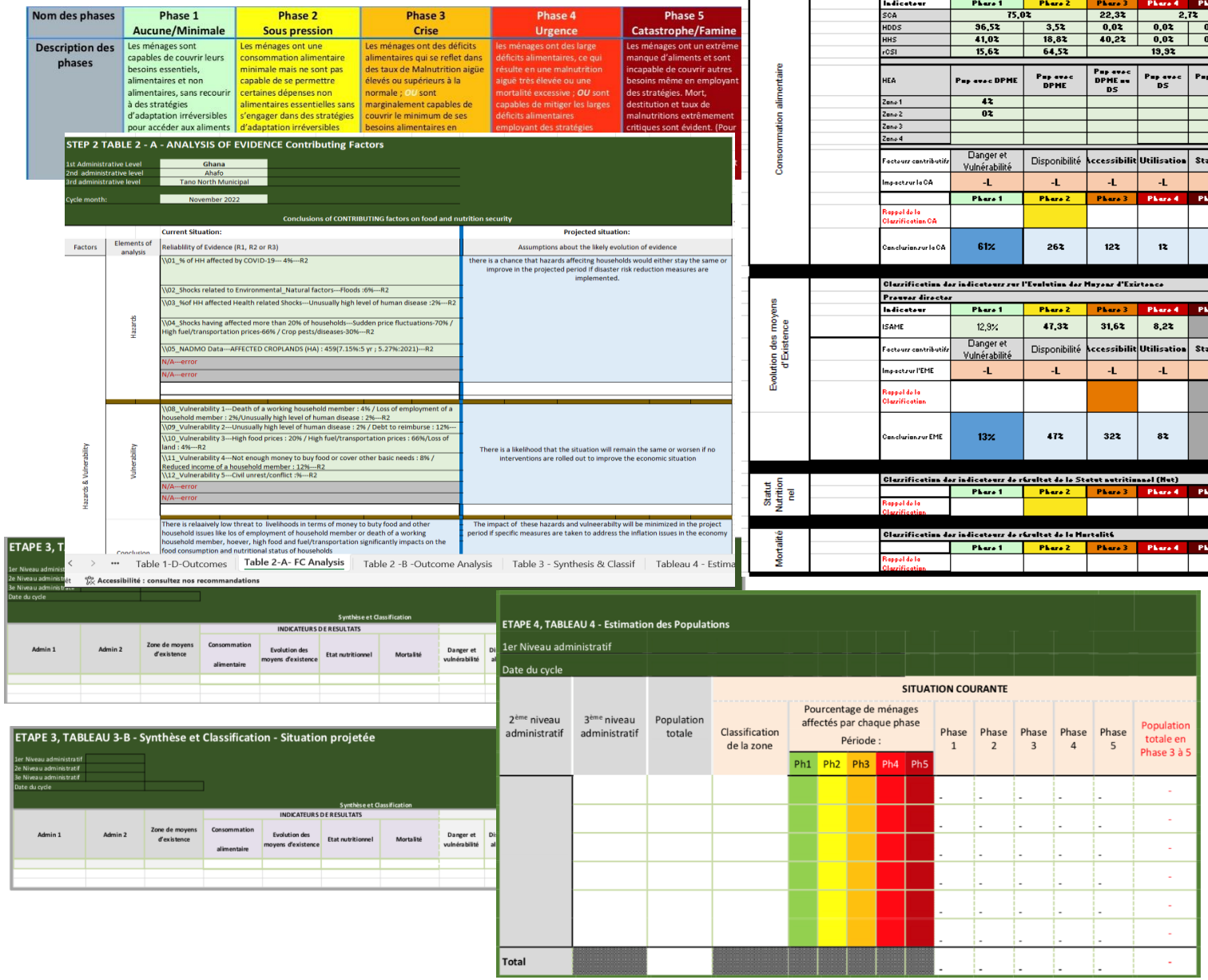
TOOLS REQUIRED FOR ESTIMATING POPULATIONS: what is Required to Estimate Population?

TABLES AVAILABLE:

- **Reference table for reading the phase description**
- **Completed table of evidence, indicators and contributing factors (Table 1);**
- **Summary tables and classification of zones completed (table 3-A and 3-B);**

TABLES TO BE COMPLETED:

- Table of distribution of evidence for the estimation of populations by phase of severity of acute food and nutritional insecurity (Table 4-A);
- Table of estimates of populations experiencing food and nutritional insecurity (Table 4-B - Excel format).



POPULATION ESTIMATION STEPS:

Step 1: population estimation for food consumption outcome

- Checking data of indicators by phase
- Consideration of CF impacts
- Construction of the convergence of evidence respecting the 20% rule
- On the basis of the current situation, proceed to the distribution of the population for the projected situation while respecting the 20% rule.

STEP 4-A, TABLE 4 - Population Estimates

1st Administrative Level	Ghana
2nd administrative level	Bono
3rd administrative level	Bono
Cycle month:	March 2023

STEP 4-A, Table 4: Summary of figures

Outcomes		Current Situation:		March-May		
		Classification outcome of food consumption indicators (FC)				
		Direct evidence				
		Indicator	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
		FCS	82,8%		17,2%	0,0%	
		HDDS	90,5%	4,3%	1,9%	2,4%	0,9%
		HHS	72,4%	8,1%	19,5%	0,0%	0,0%
		rCSI	52,8%	32,4%	14,8%		
Food Consumption		HEA	Pop with LPD	Pop with LPD	Pop with LPD or SD	Pop with SD	Pop with SD
		Zone 1					
		Zone 2					
		Zone 3					
		Zone 4					
		Contributive Factors	Hazards & Vulnerability	Availibility	Access	Utilization	Stability
		Impact on FC	-M	+L	+L	N/A	+L
			Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
		Recall the Classification of FC					
		Conclusion on FC estimates	84%	10%	6%	0%	0%

Outcomes		Projected situation:		June-August		
		Classification outcome of food consumption indicators (FC)				
		Direct evidence				
		Indicator	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
		HEA	Pop with LPD	Pop with LPD	Pop with LPD or SD	Pop with SD	Pop with SD
		Zone 1					
		Zone 2					
		Zone 3					
		Zone 4					
Food Consumption		Contributive Factors	Hazards & Vulnerability	Availibility	Access	Utilization	Stability
		Impact on FC	-L	+L	+L	N/A	+M
			Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
		Recall the Classification of FC					
		Conclusion on FC estimates	90%	10%	0%	0%	0%

POPULATION ESTIMATION STEPS:

Step 2: population estimation for livelihood change outcome

- Verification of distribution of proportion by ELH phase
- Construction of the convergence of evidence taking into account the impacts of CF while respecting the 20% rule
- On the basis of the current situation, proceed to the distribution of the population for the projected situation while respecting the 20% rule.

TABLE 4 - Population Estimates

ve Level	Ghana
tive level	Bono
ive level	Bono
	March 2023

Evolution of livelihoods	Classification of indicators on the evolution of Livelihoods					
	Direct evidence					
	Indicator	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	LH-CS	77,1%	15,3%	6,2%	1,4%	
	Contributive Factors	Hazards & Vulnerability	Availibility	Access	Utilization	Stability
	Impact on LH-trends	-M	+M	+F	N/A	+M
	Recall the Classification of LH					
	Conclusion on LH estimates	93%	7%	0%	0%	

Evolution of livelihoods	Classification of indicators on the evolution of Livelihoods					
	Direct evidence					
	Indicator	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Contributive Factors	Hazards & Vulnerability	Availibility	Access	Utilization	Stability
	Impact on LH-trends	-L	+M	+F	N/A	+M
	Recall the Classification of LH					
	Conclusion on LH estimates	95%	5%	0%	0%	

POPULATION ESTIMATION STEPS:

Step 3: Verification of Nutrition and Mortality Outcome Data

ETAPE 4-A, TABLEAU 4 - Estimation des Populations

1er Niveau administratif	Mali
2e Niveau administratif	Tombouctou
3e Niveau administratif	Goundam
Date du cycle	Novembre 2022

- Verification of automatic reporting of nutrition and mortality data
- verification of the classification of nutritional status and mortality

ETAPE 4-A, TABLEAU 4 : synthèse des données chiffrées

Résultat		Situation Courante :					
Statut Nutritionnel		Classification des indicateurs de résultat de le Statut nutritionnel (Nut)					
			Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
		Rappel de la Classification					
Mortalité		Classification des indicateurs de résultat de la Mortalité					
			Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
		Rappel de la Classification					

Résultat	Situation Projetée :					
Statut Nutri	Classification des indicateurs de résultat de le Statut nutritionnel (Nut)					
	Indicateur	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Rappel de la Classification					
Mortalité	Classification des indicateurs de résultat de la Mortalité					
	Indicateur	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Rappel de la Classification					

POPULATION ESTIMATION STEPS:

Step 4: Verifying the existence of data on contributing factors

- Verification of the reporting of data on contributing factors
- otherwise proceed with their integration into table 4A by referring to table 2A

STEP 4-A, TABLE 4 - Population Estimates

1st Administrative Level	Ghana
2nd administrative level	Bono
3rd administrative level	Bono
Cycle month:	March 2023

Hazards and Vulnerability (% or number of people affected / impacted by type of impact)	Crop pest/disease - 37.14% Area affected by harzards - 39.2% High fuel and transport prices - 72.28% high fertilizer cost - 67.14%	Hazards and Vulnerability (% or number of people affected / impacted by type of impact)	Recall the asumptions made
Availability	\\15_Three (3) major staple crops produced (MT)---Maize - 441,638 (+33.14%:5yr, +21.32%:2022) Cassava - 1,794,953 (+2.1%:5yr, +13.72%:2022) Plantain - 321,744 (-20.65%:5yr, -32.08%:2022)	Availability	The region is a breadbasket of the country. Favourble rainfall and ealrly on set rain improve the production of crops and moisture content in the soil in the projected pe Support to the fishery sector and expansion of the coverage area is expected to imp fish production. Improvement in vegetation cover will contribute to livestock fe resulting in improvement nutritional security.
Accessibility	\\45_Price of 3 major staples (GHS)---Maize - 340.42 (+105%:5yr, +17%:2022) Cassava -145.98 (+91%:5yr, 2%:2022) Plantain - 21.34 (+65%:5yr, -10%:2022)	Accessibility	Prices of crops and fish may remain same or increase marginally as a result of increa fuel prices globally resulting in increase in transport fares. However, harvest from n season stocks and influx of crops from other marketing centers and farming areas int region may reduce the prices of the produce hence favouring consumers and farm differently.
food utilization including water	\\77_Child Care Practices---immediate/ within 1 hour:70.24%1-24 hours24.05%more than 24 hrs5.07%Don't know0.64%	food utilization including water	Percentage of household with diarhoea may not worsen while those with fever may due to Ghana Health Services (GHS) continues outreach to the communities in the re Child care practices may improve with the support of GHS. Improvment in educatic
Stability	\\108_Trends in Staple crops Prices---Maize - 340.42 (+105%:5yr, +17%:2022) Cassava -145.98 (+91%:5yr, 2%:2022) Plantain - 21.34 (+65%:5yr, -10%:2022)	Stability	The region is a hub of food production. Generally, the trend in production of major s crops may remain the same with favourable rainfall coupled with availability of pre stocks of food crops. Good aquaculture practices and quality fish seed and feed coupl low mortality may afftect fish growth and production postively resulting in growt Vegetation cover will contribute to improvement in protein intake since growth livestock will be recorded Prices is either to remain same or increase marginally even with harvest and inflow c

Table 1-C Cont Factors | Table 1-D-Outcomes | Table 2-A- FC Analysis | Table 2 -B -Outcome Analysis | Table 3 - Synthesis & Classif | Tableau 4 - Estimation Pop

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POPULATION ESTIMATION STEPS:

Step 5: Estimate the population for the area

- Build convergence of evidence based on:
- ✓ The distribution of populations by phase for FC and ELH results
- ✓ Data on the CF
- ✓ Phases of classification of nutritional status and mortality
- ▪ Compliance with the 20% rule consistent with the classification of the area.
- ▪ Read again the description of each phase

ETAPE 4-A, TABLEAU 4 - Estimation des Populations

1er Niveau administratif	Mali
2e Niveau administratif	Tombouctou
3e Niveau administratif	Goundam
Date du cycle	Novembre 2022

ETAPE 4-A, TABLEAU 4 : synthèse des données chiffrées

Résultat		Situation Courante :					Résultat	Situation Projetée :				
Rappel de la Classification de la zone en phase courant							Rappel de la Classification de la zone					
Population estimée		73%	22%	5%	0%	0%	Population estimée	67%	26%	7%	0%	

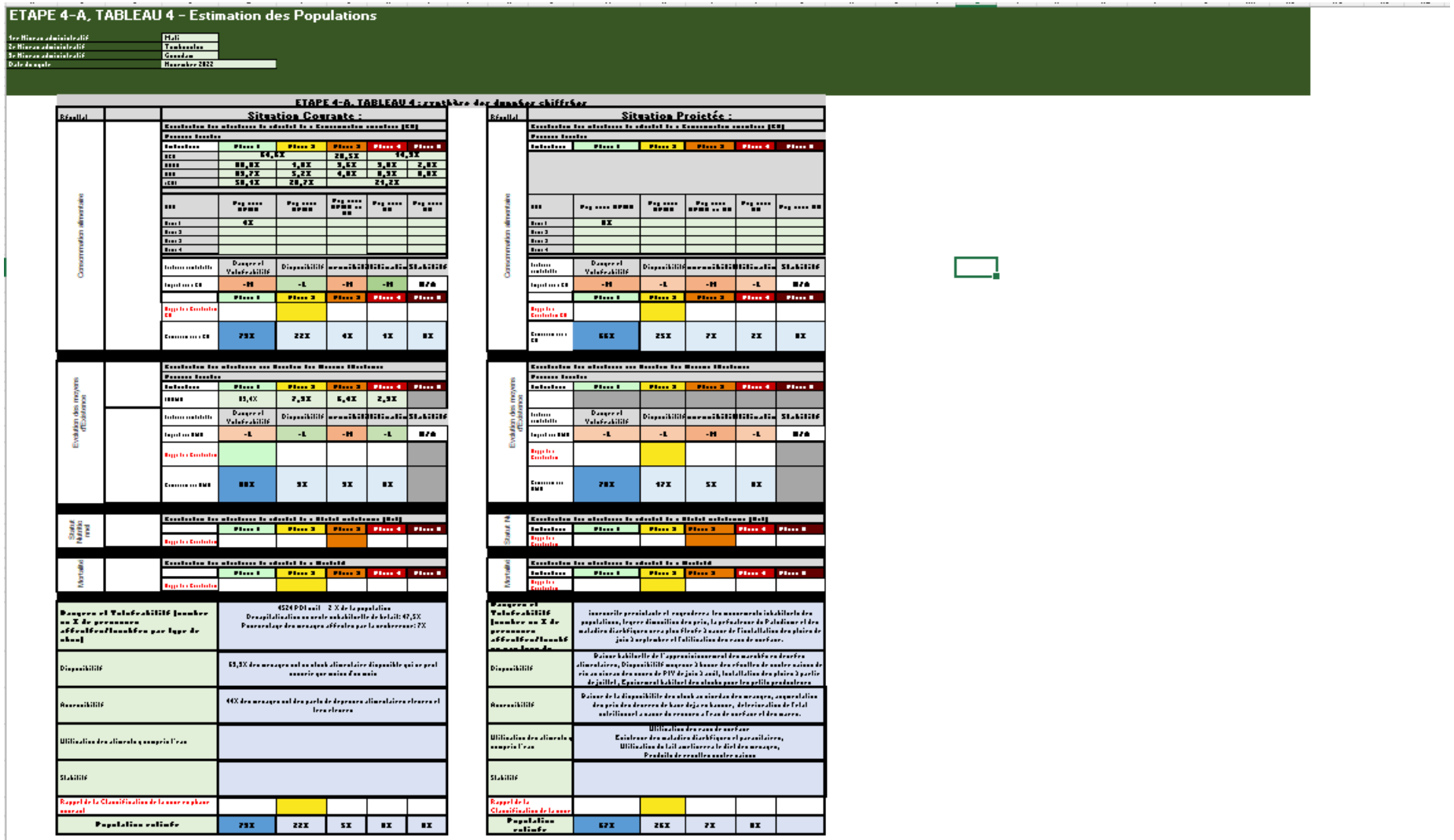
ETAPE 4-B, TABLEAU 5 - Estimation des Populations

1er Niveau administratif	Mali
Date du cycle	Novembre 2022

							SITUATION COURANTE										SITUATION PROJETEE										
1er niveau administratif	2ème niveau administratif	3ème niveau administratif	Geocode	Date du cycle	Population totale	Protocole d'analyse	Classification de la zone	Pourcentage de ménages affectés par chaque Ph Période :					Population totale en Ph 1	Population totale en Ph 2	Population totale en Ph 3	Population totale en Ph 4	Population totale en Ph 5	Population totale en Ph 3 à 5	Classification de la zone projetée	Pourcentage de ménages affectés par chaque Ph Période :					Population totale en Phase 1	Population totale en Phase 2	Population totale en Phase 3	Population totale en Phase 4	Population totale en Phase 5	Population totale en Phase 3 à 5
								Ph 1	Ph 2	Ph 3	Ph 4	Ph 5								Ph 1	Ph 2	Ph 3	Ph 4	Ph 5						
Mali	Tombouctou	Goundam	ML0602	Novembre 2022	232 206	Protocole normal	2	73%	22%	5%	0%	0%	169 510	51 085	11 610	-	-	11 610	2	67%	26%	7%	0%	0%	155 578	60 373	16 254	-	-	16 254
Total					232 206								169 510	51 085	11 610	-	-	11 610							155 578	60 373	16 254	-	-	16 254

POPULATION ESTIMATION STEPS:

Overall overview of table 4



POPULATION ESTIMATION IN PHASE 5

Reminder of the description of Phase 5

Phase 5: catostrophe /Famine	Households are extremely short of food and/or enough to meet their other basic needs, despite maximum use of coping strategies. Critical levels of starvation, death, destitution and acute malnutrition are evident (To be classified in the Famine phase, an area must have extremely critical levels of acute malnutrition and mortality)

Clarification of the terminology used to define population estimated to be in Phase 5

If the area is classified in a phase lower than Phase 5, then we are talking about populations in

Catastrophe

If the area is classified as Phase 5, the area is in Famine, and we are talking about populations in

Famine

Characteristics of Zones in Famine and Populations In Catastrophe

Zones in Famine - characteristics

- Shocks: serious and external
- Very large food deficits (unusual large consumption of wild foods)
- Use of extreme coping strategies for example (entire migration of households, sale of cropland, sale of all livestock)
- GAM rate ≥ 30%
- Crude mortality rate (CDR) ≥2 people per day per 10,000

Populations in Catastrophe – characteristics

- Context: displacement/natural shocks, loss of property, no or low coverage of humanitarian assistance, often difficult access
- Use of extreme coping strategies for example (entire migration of households, sale of cropland, sale of all livestock)
- very significant dietary deficits (unusual consumption of wild foods, HHS score 5-6)

Conditions for estimating populations in phase 5

If the Area is classified in Famine **(Phase 5)**

1. Ensure, in a first step, that the minimum conditions for classifying an area in Famine are respected,
2. Proceed, in a second step, on the basis of available evidence, to the actual estimate, while respecting the principle of convergence of evidence as defined in the manual as well as the 20% rule;

Which should then lead to estimating a percentage greater than or equal to 20%

Conditions for estimating populations in Phase 5

If the area is not classified in Phase 5 (Famine), the conditions for estimating populations in Catastrophe (Phase 5) are defined as follows:

1. Area classified in Phase 3 or Phase 4
2. Existence of populations in Phase 5 for the outcome **Food consumption**;
3. **NUTRITION outcome** is classified in Phase 4 or worse
4. If the E**VOLUTION OF LIVELIHOODS outcome is classified, there must be populations in phase 4**
5. If the **MORTALITY outcome** is classified, it must be in Phase 3 or worse

POPULATION ESTIMATION IN PHASE 4

Reminder of the description of Phase 4

Phase 4: EMERGENCY	Households: have significant food consumption deficits reflected by very high acute malnutrition and excessive mortality Or are able to reduce the size of food deficits but only by using emergency coping strategies and liquidating their assets.

Conditions for estimating populations in phase 4

If the Area is classified in **EMERGENCY (Phase 4)**

Proceed, on the basis of available evidence, to the actual estimate, while respecting the principle of convergence of evidence as defined in the manual as well as the 20% rule;

Which should then lead to estimating a percentage greater than or equal to 20% for Phase 4 at worst

Conditions for estimating populations in Phase 4

If the area classification has not reached the emergency level (Phase 4),the conditions for estimating populations in Emergency (Phase 4) are defined as follows:

1. Area classified in Phase 2 or Phase 3
2. Existence of populations in Phase 4 for the Food consumption outcome ;
3. If the **EVOLUTION OF LIVELIHOODS outcome is classified, it must exist** populations in Phase 4
4. If the **NUTRITION outcome** is classified, it must be in Phase 3 or worse
5. If the **MORTALITY outcome** is classified, it must be in Phase 2 or worse

ESTIMATION OF POPULATIONS IN PHASE 3,2 AND 1

Reminder of the description of Phase 3

Phase 3: **CRISIS**	*Households:* · *have food consumption deficits reflected by high acute malnutrition or above usual levels.* ***Or*** · *manage to cover their essential food needs marginally but only by devesting their major livelihood assets or by employing crisis coping strategies.*

Population Estimation in Phase 3

PHASE	Fundamental questions	INDICATIONS
Crisis	Given the available evidence, is it possible to estimate people meeting the characteristics set out in the Phase 3 description?	▪ Check the existence of population estimates made for Phase 3 of the CA and/or EME results. ▪ Check the existence of data on the prevalence of SAM. ▪ Check the existence of quantified data on the determinants (Danger and vulnerability) ▪ On this basis, a consensus estimate of a population proportion for this phase will be made. ▪ If there are no populations in phase 3, you must enter “ZERO” and move on to the next phase.

POPULATION ESTIMATION IN PHASE 2

Reminder of the description of Phase 2

Phase 2: **UNDER PRESSURE**	***Households have minimally adequate food consumption but cannot meet certain non-food expenses without engaging in stress coping strategies***

Population Estimation in Phase 3

PHASE	Fundamental questions	INDICATIONS
Under pressure	Given the available evidence, is it possible to estimate people meeting the characteristics set out in the Phase 2 description?	▪ Check the existence of population estimates made for Phase 2 of the CA and/or EME results. ▪ Check the existence of data on the prevalence of SAM. ▪ Check the existence of the FC figures ▪ Carry out a consensus estimate of a population proportion for this phase.

POPULATION ESTIMATION IN PHASE 1

Reminder of the description of Phase 1

Phase 1: **NONE/MINIMAL**	***Households are able to cover their needs food and non-food essentials without engaging in atypical or unsustainable strategies to access food and income***

POPULATION ESTIMATION IN PHASE 1

PHASE	INDICATIONS
NONE/MINIMAL	The proportion of populations in phase 1 is obtained by deducting from 100% the sum of the proportions of populations in phases 5, 4, 3 and 2. In other words, it is the total population of the area analyzed from which we deduct the sum of the populations of the upper phases (2, 3, 4 and 5).

Exercise on population estimation

Based on the case study, estimate the number of people per FNI severity phase for the current and projected periods

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END

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