# Analyse de consistance des bases

## Importation et visualisation des 5 premières lignes de chaque base

| ID | SvyDate | YEAR | SvyMonth | SURVEY | ADMIN0Name | adm0\_ocha | ADMIN1Name | adm1\_ocha | ADMIN2Name | adm2\_ocha | HHSize | HHSize05M | HHSize23M | HHSize59M | HHSize5114M | HHSize1549M | HHSize5064M | HHSize65AboveM | HHSize05F | HHSize23F | HHSize59F | HHSize5114F | HHSize1549F | HHSize5064F | HHSize65AboveF | HHHSex | HHHAge | HHHEdu | HHHMainActivity | HHHMatrimonial | HHSourceIncome | HDDS\_CH | HDDSStapCer | HDDSStapRoot | HDDSPulse | HDDSVegOrg | HDDSVegGre | HDDSVegOth | HDDSFruitOrg | HDDSFruitOth | HDDSPrMeatF | HDDSPrMeatO | HDDSPrFish | HDDSPrEgg | HDDSDairy | HDDSSugar | HDDSFat | HDDSCond | HDDSPrMeat | FCSStap | FCSStapSRf | FCSPulse | FCSPulseSRf | FCSDairy | FCSDairySRf | FCSPr | FCSPrSRf | FCSPrMeatF | FCSPrMeatO | FCSPrFish | FCSPrEgg | FCSVeg | FCSVegSRf | FCSVegOrg | FCSVegGre | FCSFruit | FCSFruitSRf | FCSFruitOrg | FCSFat | FCSFatSRf | FCSSugar | FCSSugarSRf | FCSCond | FCSCondSRf | LhCSIStress1 | LhCSIStress2 | LhCSIStress3 | LhCSIStress4 | LhCSICrisis1 | LhCSICrisis2 | LhCSICrisis3 | LhCSIEmergency1 | LhCSIEmergency2 | LhCSIEmergency3 | rCSILessQlty | rCSIBorrow | rCSIMealSize | rCSIMealAdult | rCSIMealNb | SERSRebondir | SERSRevenue | SERSMoyen | SERSDifficultes | SERSSurvivre | SERSFamAmis | SERSPoliticiens | SERSLecons | SERSPreparerFuture | SERSAvertissementEven |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30405632 | 2022-12-21 | 2022 | 12 | Enquête annuelle | Tchad | TD | Lac | TD07 | Kaya | TD0703 | 5 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 55 | 1 | NA | NA | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 7 | 5 | 0 | NA | 0 | NA | 6 | NA | 0 | 0 | 6 | 0 | 6 | NA | 0 | 6 | 0 | NA | NA | 7 | 5 | 7 | 5 | 6 | 5 | 4 | 4 | 4 | 3 | 1 | 4 | 1 | 1 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 4 | 4 | 4 | 4 | 4 | 2 | 5 | 2 | 3 | 4 |
| 30301697 | 2022-12-23 | 2022 | 12 | Enquête annuelle | Tchad | TD | Kanem | TD06 | Kanem | TD0601 | 13 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 3 | 0 | 0 | 2 | 55 | 2 | NA | NA | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 7 | 5 | 5 | 5 | 4 | 1 | 1 | NA | 1 | 0 | 4 | 0 | 0 | NA | NA | NA | 2 | NA | 2 | 7 | 5 | 7 | 5 | 7 | 5 | 4 | 1 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 30273268 | 2022-12-25 | 2022 | 12 | Enquête annuelle | Tchad | TD | Batha | TD01 | Batha Est | TD0102 | 4 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 20 | 3 | NA | NA | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 5 | 1 | 3 | 1 | 0 | NA | 0 | NA | NA | NA | NA | NA | 4 | NA | 2 | 1 | 0 | NA | NA | 6 | 5 | 4 | 5 | 5 | 5 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 1 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 30301456 | 2022-12-21 | 2022 | 12 | Enquête annuelle | Tchad | TD | Kanem | TD06 | Kanem | TD0601 | 10 | 0 | 0 | 1 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 2 | 50 | 1 | NA | NA | 13 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 7 | 5 | 5 | 5 | 1 | 9 | 0 | NA | NA | NA | NA | NA | 7 | NA | 0 | 3 | 0 | NA | NA | 7 | 5 | 7 | 5 | 7 | 5 | 4 | 1 | 4 | 1 | 4 | 4 | 4 | 1 | 1 | 4 | 0 | 2 | 0 | 0 | 0 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 4 |
| 31060059 | 2023-01-01 | 2022 | 12 | Enquête annuelle | Tchad | TD | Ouaddai | TD14 | Ouara | TD1401 | 8 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 40 | 2 | NA | NA | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 7 | 1 | 0 | NA | 7 | 1 | 2 | NA | 2 | 0 | 0 | 0 | 0 | NA | NA | NA | 0 | NA | NA | 0 | NA | 0 | NA | 7 | 5 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 30406541 | 2022-12-22 | 2022 | 12 | Enquête annuelle | Tchad | TD | Lac | TD07 | Kaya | TD0703 | 7 | 0 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 30 | 1 | NA | NA | 13 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 7 | 5 | 7 | 5 | 0 | NA | 2 | NA | 0 | 0 | 2 | 0 | 0 | NA | NA | NA | 0 | NA | NA | 7 | 5 | 0 | NA | 5 | 5 | 4 | 1 | 4 | 3 | 1 | 4 | 1 | 1 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 1 | 1 | 5 | 5 | 5 |

| MAD\_sex | MAD\_resp\_age | EverBreastF | PCIYCBreastF | PCIYCInfFormNb | PCIYCDairyMiNb | PCIYCDairyYoNb | PCIYCStapPoNb | PCMADStapCer | PCMADVegOrg | PCMADStapRoo | PCMADVegGre | PCMADFruitOrg | PCMADVegFruitOth | PCMADPrMeatO | PCMADPrMeatF | PCMADPrEgg | PCMADPrFish | PCMADPulse | PCMADDairy | PCMADFatRpalm | PCMADSnfChild | PCMADSnfPowd | PCMADSnfLns | PCIYCMeals | ID |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 16555652 |
| 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 16555652 |
| 0 | 7 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 16442638 |
| 0 | 8 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 16555825 |
| 0 | 11 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 16555899 |
| 1 | 7 | 1 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 16555652 |

## Analyse de consistance des bases

### Analyse de consistance de la base principale

#### Détection des doublons

## nombre de doublons : 0   
##   
## Aucun doublon trouvé.

#### Comparaison hhsize et les autres variables donnant le nombre de personnes dans chaque classe d’âge

On va essayer de comparer la taille des méngages et la somme des individus dans le ménage selon les classes d’âge pour voir s’il y’a incohérence.

## Nombre d'observations incohérentes : 0

## # A tibble: 0 × 102  
## # ℹ 102 variables: ID <chr>, SvyDate <date>, YEAR <dbl>, SvyMonth <dbl>,  
## # SURVEY <chr>, ADMIN0Name <chr>, adm0\_ocha <chr>, ADMIN1Name <chr>,  
## # adm1\_ocha <chr>, ADMIN2Name <chr>, adm2\_ocha <chr>, HHSize <dbl>,  
## # HHSize05M <dbl>, HHSize23M <dbl>, HHSize59M <dbl>, HHSize5114M <dbl>,  
## # HHSize1549M <dbl>, HHSize5064M <dbl>, HHSize65AboveM <dbl>,  
## # HHSize05F <dbl>, HHSize23F <dbl>, HHSize59F <dbl>, HHSize5114F <dbl>,  
## # HHSize1549F <dbl>, HHSize5064F <dbl>, HHSize65AboveF <dbl>, …

Il y a 0 d’observations incohérentes pour cela

### Analyse de consistance de la base MAD

L’analyse révèle les doublons suivants

## nombre de doublons : 2   
##   
## Voici les lignes en doublon :  
## # A tibble: 4 × 26  
## MAD\_sex MAD\_resp\_age EverBreastF PCIYCBreastF PCIYCInfFormNb PCIYCDairyMiNb  
## <dbl+lbl> <dbl> <dbl+lbl> <dbl+lbl> <dbl> <dbl>  
## 1 1 [Homme] 12 0 [Non] 0 [Non] 0 0  
## 2 1 [Homme] 12 0 [Non] 0 [Non] 0 0  
## 3 0 [Femme] 10 1 [Oui] 1 [Oui] 1 0  
## 4 0 [Femme] 10 1 [Oui] 1 [Oui] 1 0  
## # ℹ 20 more variables: PCIYCDairyYoNb <dbl>, PCIYCStapPoNb <dbl>,  
## # PCMADStapCer <dbl+lbl>, PCMADVegOrg <dbl+lbl>, PCMADStapRoo <dbl+lbl>,  
## # PCMADVegGre <dbl+lbl>, PCMADFruitOrg <dbl+lbl>, PCMADVegFruitOth <dbl+lbl>,  
## # PCMADPrMeatO <dbl+lbl>, PCMADPrMeatF <dbl+lbl>, PCMADPrEgg <dbl+lbl>,  
## # PCMADPrFish <dbl+lbl>, PCMADPulse <dbl+lbl>, PCMADDairy <dbl+lbl>,  
## # PCMADFatRpalm <dbl+lbl>, PCMADSnfChild <dbl+lbl>, PCMADSnfPowd <dbl+lbl>,  
## # PCMADSnfLns <dbl+lbl>, PCIYCMeals <dbl>, ID <chr>

# Analyse des données et calcul des indicateurs

## Analyse socio-démographique des ménages

### Caractéristiques générales des ménages

Le tableau ci-dessous présente quelques caractéristiques socio-économiques des ménages

## Warning: le package 'labelled' a été compilé avec la version R 4.4.2

| **Characteristic** | **N** | **Overall** N = 8,950*1* | **Femme** N = 3,938*1* | **Homme** N = 5,012*1* |
| --- | --- | --- | --- | --- |
| **household size** | 8,950 | 7.55 (moy: 7.55, méd: 6.0) | 7.3 (moy: 7.3, méd: 6.0) | 7.8 (moy: 7.8, méd: 7.0) |
| **What is the age of the head of household (in years)?** | 8,950 | 43 (moy: 43, méd: 42.0) | 40.1 (moy: 40.1, méd: 40.0) | 45.2 (moy: 45.2, méd: 45.0) |
| **What is the level of education attained by the head of household?** | 5,926 |  |  |  |
| Aucune |  | 1,827 (31%) | 1,105 (44%) | 722 (21%) |
| Alphabétisé ou Coranique |  | 3,684 (62%) | 1,257 (50%) | 2,427 (71%) |
| Primaire |  | 265 (4.5%) | 106 (4.2%) | 159 (4.7%) |
| Secondaire |  | 126 (2.1%) | 42 (1.7%) | 84 (2.5%) |
| Superieur |  | 24 (0.4%) | 4 (0.2%) | 20 (0.6%) |
| Unknown |  | 3,024 | 1,424 | 1,600 |
| *1*Mean (moy: Mean, méd: Median); n (%) | | | | |

Le tableau ci-dessus représente certaines caractéristiques socio-démographiques des ménages en général et en fonction du sexe du chef de ménage.

## Score de consommation alimentaire (SCA)

### Analyse descriptive des variables composant le SCA

| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Consumption over the past 7 days: cereals, grains and tubers** |  |
| 0 | 54 (0.6%) |
| 1 | 81 (0.9%) |
| 2 | 64 (0.7%) |
| 3 | 79 (0.9%) |
| 4 | 82 (0.9%) |
| 5 | 251 (2.8%) |
| 6 | 345 (3.9%) |
| 7 | 7,994 (89%) |
| **Consumption over the past 7 days: pulses** |  |
| 0 | 2,516 (28%) |
| 1 | 824 (9.2%) |
| 2 | 1,917 (21%) |
| 3 | 1,665 (19%) |
| 4 | 864 (9.7%) |
| 5 | 489 (5.5%) |
| 6 | 120 (1.3%) |
| 7 | 555 (6.2%) |
| **Consumption over the past 7 days: dairy products** |  |
| 0 | 4,045 (45%) |
| 1 | 785 (8.8%) |
| 2 | 1,318 (15%) |
| 3 | 1,096 (12%) |
| 4 | 602 (6.7%) |
| 5 | 217 (2.4%) |
| 6 | 47 (0.5%) |
| 7 | 840 (9.4%) |
| **Consumption over the past 7 days: meat, fish and eggs** |  |
| 0 | 1,749 (20%) |
| 1 | 2,009 (22%) |
| 2 | 1,466 (16%) |
| 3 | 1,053 (12%) |
| 4 | 896 (10%) |
| 5 | 524 (5.9%) |
| 6 | 149 (1.7%) |
| 7 | 1,104 (12%) |
| **Consumption over the past 7 days: vegetables** |  |
| 0 | 2,222 (25%) |
| 1 | 418 (4.7%) |
| 2 | 733 (8.2%) |
| 3 | 625 (7.0%) |
| 4 | 507 (5.7%) |
| 5 | 1,305 (15%) |
| 6 | 635 (7.1%) |
| 7 | 2,505 (28%) |
| **Consumption over the past 7 days: fruit** |  |
| 0 | 7,680 (86%) |
| 1 | 501 (5.6%) |
| 2 | 395 (4.4%) |
| 3 | 194 (2.2%) |
| 4 | 90 (1.0%) |
| 5 | 42 (0.5%) |
| 6 | 9 (0.1%) |
| 7 | 39 (0.4%) |
| **Consumption over the past 7 days: fat and oil** |  |
| 0 | 555 (6.2%) |
| 1 | 286 (3.2%) |
| 2 | 291 (3.3%) |
| 3 | 421 (4.7%) |
| 4 | 436 (4.9%) |
| 5 | 712 (8.0%) |
| 6 | 562 (6.3%) |
| 7 | 5,687 (64%) |
| **Consumption over the past 7 days: sugaror sweets** |  |
| 0 | 1,150 (13%) |
| 1 | 240 (2.7%) |
| 2 | 366 (4.1%) |
| 3 | 355 (4.0%) |
| 4 | 343 (3.8%) |
| 5 | 568 (6.3%) |
| 6 | 435 (4.9%) |
| 7 | 5,493 (61%) |
| *1*n (%) | |

### Calcul du SCA

Le score de consommation alimentaire (SCA) ou Food Consumption Score (FCS) est un score composite pondéré calculé à partir des jours de consommation de certains groupes d’aliments, sur les 7 derniers jours, pondérés par leur valeur nutritionnelle. Ce score a été calculé conformément à la méthodologie standardisée du Programme Alimentaire Mondial (PAM), en appliquant des poids nutritionnels spécifiques à huit groupes d’aliments, comme défini dans le guide technique du SCA : 2 pour les céréales, 3 pour les légumineuses, 4 pour les produits laitiers et les protéines animales, 1 pour les légumes et fruits, 0,5 pour les graisses et le sucre. Formule de calcul :

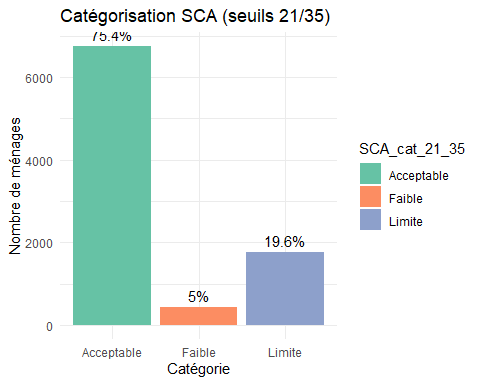
| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Score de Consommation Alimentaire (SCA)** | 47.3 ± 16.9 | Min: 0.0 | Max: 112.0 |
| *1*Mean ± SD | Min: Min | Max: Max | |

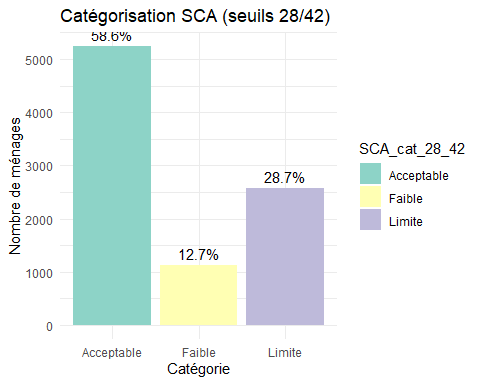
### Tableaux des poids

D’après le Programme alimentaire mondial , les poids sont répartis ainsi | Groupe alimentaire | Variable | Poids | |—————————–|—————-|——-| | Céréales, tubercules | FCSStap | 2 | | Légumineuses / noix | FCSPulse | 3 | | Produits laitiers | FCSDairy | 4 | | Viande, poisson, œufs | FCSPr | 4 | | Légumes | FCSVeg | 1 | | Fruits | FCSFruit | 1 | | Huiles, graisses | FCSFat | 0.5 | | Sucre et sucreries | FCSSugar | 0.5 |

### Categorisation du SCA selon les seuil 21/35 et 28/42

Visualisation des catégories





### Représentation spatiale par région et par département du SCA et des catégories

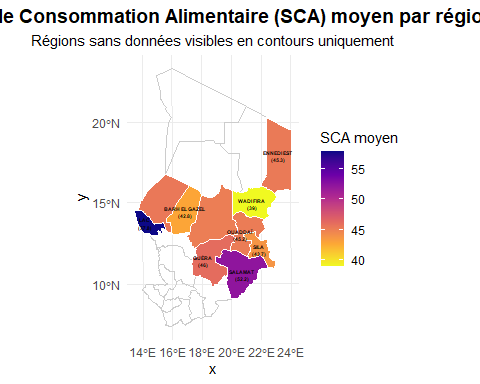
Les shapefiles pour la représentation spatiale ont été trouvées dans le site HDX

#### Représentation spatiale par région du SCA et des catégories

On va pour cela agréger le SCA par région et fusionner la base avec le shapefile suivant la clé région

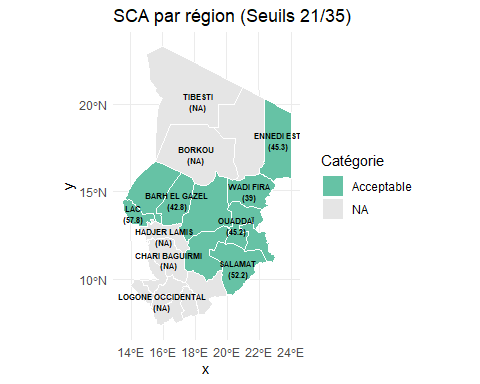
Nettoyage des noms des clés avant la fusion

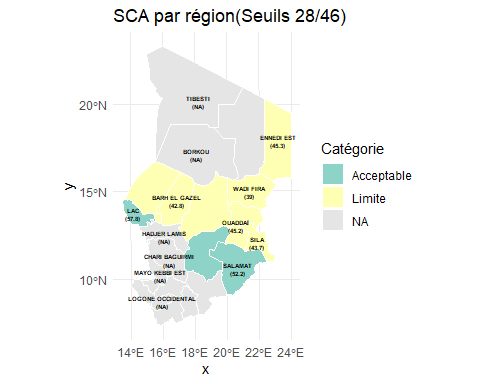
Carte du SCA



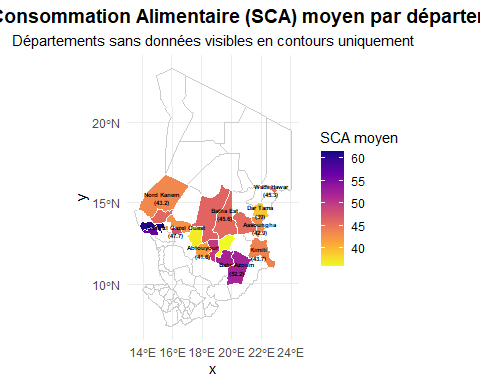
**Figure** **:** Score de Consommation Alimentaire (SCA) moyen par région

Carte du SCA suivant les catégories





#### Représentation spatiale par département du SCA et des catégories



## L’indice réduit des stratégies de survie (rCSI):

Le rCSI (reduced Coping Strategies Index) est un score composite pondéré mesurant les stratégies d’adaptation face à l’insécurité alimentaire au cours des 7 derniers jours. Chaque stratégie a un poids reflétant sa gravité perçue.

### Analyse descriptive des variables composant le rCSI

| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Relied on less preferred, less expensive food** |  |
| 0 | 4,065 (45%) |
| 1 | 2,233 (25%) |
| 2 | 1,475 (16%) |
| 3 | 633 (7.1%) |
| 4 | 186 (2.1%) |
| 5 | 129 (1.4%) |
| 6 | 36 (0.4%) |
| 7 | 193 (2.2%) |
| **Borrowed food or relied on help from friends or relatives** |  |
| 0 | 4,209 (47%) |
| 1 | 2,162 (24%) |
| 2 | 1,449 (16%) |
| 3 | 643 (7.2%) |
| 4 | 176 (2.0%) |
| 5 | 111 (1.2%) |
| 6 | 28 (0.3%) |
| 7 | 172 (1.9%) |
| **Reduced portion size of meals at meals time** |  |
| 0 | 5,543 (62%) |
| 1 | 1,767 (20%) |
| 2 | 994 (11%) |
| 3 | 424 (4.7%) |
| 4 | 124 (1.4%) |
| 5 | 42 (0.5%) |
| 6 | 11 (0.1%) |
| 7 | 45 (0.5%) |
| **Restricted consumption by adults in order for young children to eat** |  |
| 0 | 6,761 (76%) |
| 1 | 1,319 (15%) |
| 2 | 518 (5.8%) |
| 3 | 227 (2.5%) |
| 4 | 68 (0.8%) |
| 5 | 25 (0.3%) |
| 6 | 4 (<0.1%) |
| 7 | 28 (0.3%) |
| **Reduced the number of meals eaten per day** |  |
| 0 | 5,737 (64%) |
| 1 | 1,738 (19%) |
| 2 | 898 (10%) |
| 3 | 350 (3.9%) |
| 4 | 120 (1.3%) |
| 5 | 51 (0.6%) |
| 6 | 8 (<0.1%) |
| 7 | 48 (0.5%) |
| *1*n (%) | |

### Calculer l’indice réduit des stratégies de survie

| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Relied on less preferred, less expensive food** | 5.8 ± 7.5 | Min: 0.0, Max: 56.0 |
| *1*Mean ± SD | Min: Min, Max: Max | |

### Tableaux des poids pour le rCSI

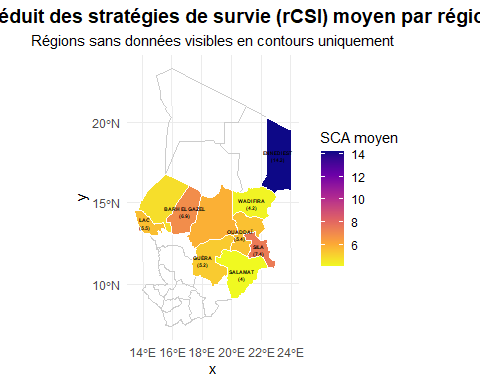
Les poids utilisés pour le calcul de l’indice réduit des stratégies de survie (rCSI) sont fournis par le Programme Alimentaire Mondial (PAM), et reflètent la gravité perçue des différentes stratégies de survie face à la pénurie alimentaire (PAM, 2021).

### Représentation spatiale par région et par département

#### Par région

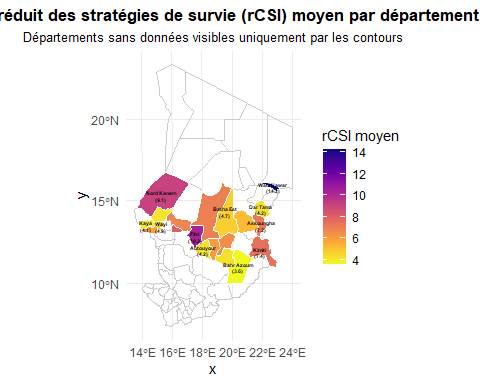
Nettoyage des noms des clés avant la fusion

Carte du SCA



**Figure** **:** Indice réduit des stratégies de survie (rCSI) moyen par région

#### Par dépatement

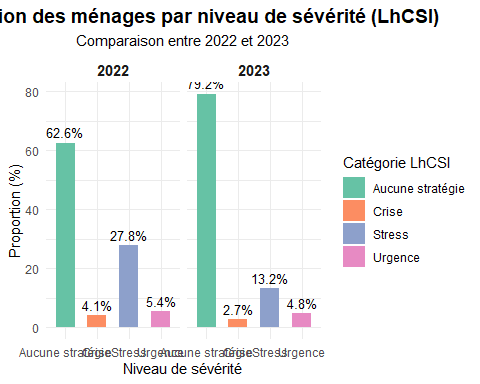


## Stratégies d’adaptation aux moyens d’existence (LhCSI)

### Analyse descriptive des variables du LhCSI

| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Sold household assets/goods (radio, furniture, refrigerator, television, jewelle** |  |
| No, because I did not need to | 0 (0%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 0 (0%) |
| Yes | 0 (0%) |
| Not applicable (don't have children/these assets) | 8,950 (100%) |
| **Spent savings due to lack of food** |  |
| No, because I did not need to | 3,156 (35%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,473 (16%) |
| Yes | 420 (4.7%) |
| Not applicable (don't have children/these assets) | 3,901 (44%) |
| **Sent household members to eat elsewhere/live with family or friends due to lack** |  |
| No, because I did not need to | 2,763 (31%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,233 (14%) |
| Yes | 375 (4.2%) |
| Not applicable (don't have children/these assets) | 4,579 (51%) |
| **Purchased food/non-food on credit (incur debts) due to lack of food** |  |
| No, because I did not need to | 3,258 (36%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,384 (15%) |
| Yes | 1,719 (19%) |
| Not applicable (don't have children/these assets) | 2,589 (29%) |
| **Sold productive assets or means of transport (sewing machine, wheelbarrow, bicyc** |  |
| No, because I did not need to | 3,487 (39%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,549 (17%) |
| Yes | 300 (3.4%) |
| Not applicable (don't have children/these assets) | 3,614 (40%) |
| **Reduced expenses on health (including drugs)** |  |
| No, because I did not need to | 2,870 (32%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,269 (14%) |
| Yes | 163 (1.8%) |
| Not applicable (don't have children/these assets) | 4,648 (52%) |
| **Withdrew children from school due to lack of food** |  |
| No, because I did not need to | 3,231 (36%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,397 (16%) |
| Yes | 108 (1.2%) |
| Not applicable (don't have children/these assets) | 4,214 (47%) |
| **Mortgaged/Sold house or land due to lack of food** |  |
| No, because I did not need to | 3,259 (36%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,387 (15%) |
| Yes | 53 (0.6%) |
| Not applicable (don't have children/these assets) | 4,251 (47%) |
| **Begged and/or scavenged (asked strangers for money/food) due to lack of food** |  |
| No, because I did not need to | 3,140 (35%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,437 (16%) |
| Yes | 282 (3.2%) |
| Not applicable (don't have children/these assets) | 4,091 (46%) |
| **Engaged in illegal income activities (theft, prostitution) due to lack of food** |  |
| No, because I did not need to | 3,138 (35%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,379 (15%) |
| Yes | 202 (2.3%) |
| Not applicable (don't have children/these assets) | 4,231 (47%) |
| *1*n (%) | |

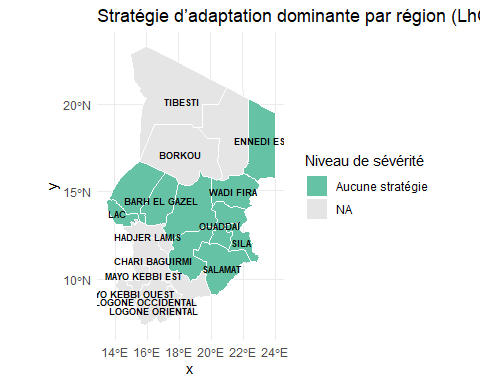
### Proportion de menage en situation de stress, de crise et d’urgence en 2022 et 2023



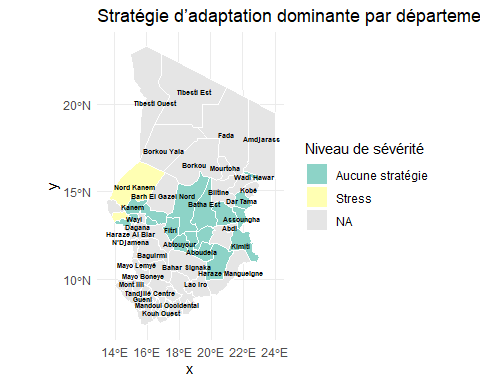
### Representation spatiale (region et departement) des strategies d’adaptation

#### Representation spatiale par region des strategies d’adaptation

Ici, on représntera les statégies d’adaptation dominante



#### Representation spatiale par département des strategies d’adaptation



## Score de diversité alimentaire des ménages

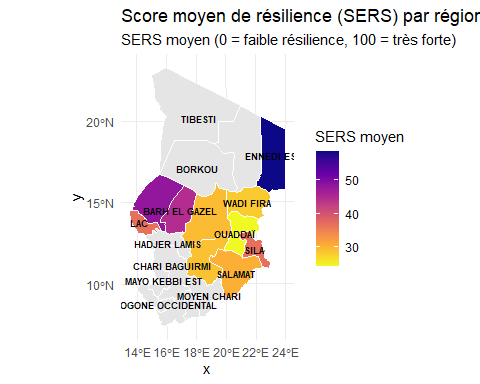
### Analyse descriptive des variables qui composent le SERS

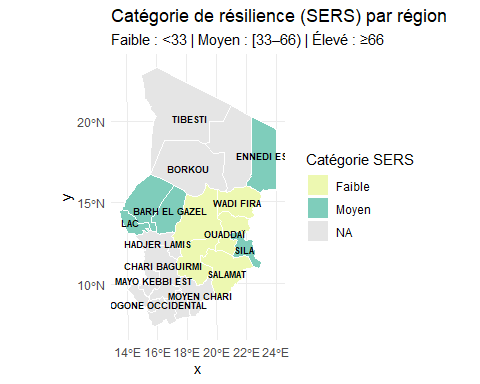
| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Your household can bounce back from any climatic, economic or socio-political ch** |  |
| tout à fait d'accord | 2,465 (28%) |
| d'accord | 3,461 (39%) |
| ni d'accord ni pas d'accord | 888 (9.9%) |
| pas d'accord | 1,733 (19%) |
| pas du tout d'accord | 403 (4.5%) |
| **If affected by a climate, economic or socio-political challenge, your household** |  |
| tout à fait d'accord | 2,146 (24%) |
| d'accord | 3,766 (42%) |
| ni d'accord ni pas d'accord | 1,069 (12%) |
| pas d'accord | 1,656 (19%) |
| pas du tout d'accord | 313 (3.5%) |
| **If the climatic, economic or socio-political threats to your household become mo** |  |
| tout à fait d'accord | 1,810 (20%) |
| d'accord | 3,384 (38%) |
| ni d'accord ni pas d'accord | 1,346 (15%) |
| pas d'accord | 2,018 (23%) |
| pas du tout d'accord | 392 (4.4%) |
| **Your household could easily access the financial support it would need if it wer** |  |
| tout à fait d'accord | 2,181 (24%) |
| d'accord | 3,208 (36%) |
| ni d'accord ni pas d'accord | 1,030 (12%) |
| pas d'accord | 2,129 (24%) |
| pas du tout d'accord | 402 (4.5%) |
| **Your household can afford everything it needs to survive and prosper** |  |
| tout à fait d'accord | 1,518 (17%) |
| d'accord | 3,136 (35%) |
| ni d'accord ni pas d'accord | 1,428 (16%) |
| pas d'accord | 2,308 (26%) |
| pas du tout d'accord | 560 (6.3%) |
| **In the event of unmet basic needs due to events/shocks/stress (climatic OR econo** |  |
| tout à fait d'accord | 2,870 (32%) |
| d'accord | 3,972 (44%) |
| ni d'accord ni pas d'accord | 948 (11%) |
| pas d'accord | 968 (11%) |
| pas du tout d'accord | 192 (2.1%) |
| **In the event of basic needs not being met due to events/shocks/stress (climatic** |  |
| tout à fait d'accord | 2,815 (31%) |
| d'accord | 3,318 (37%) |
| ni d'accord ni pas d'accord | 1,206 (13%) |
| pas d'accord | 1,307 (15%) |
| pas du tout d'accord | 304 (3.4%) |
| **Your household has learned important lessons from past difficulties caused by ev** |  |
| tout à fait d'accord | 2,090 (23%) |
| d'accord | 3,767 (42%) |
| ni d'accord ni pas d'accord | 1,222 (14%) |
| pas d'accord | 1,574 (18%) |
| pas du tout d'accord | 297 (3.3%) |
| **Your household is fully prepared for any future event/shock/stress (climatic OR** |  |
| tout à fait d'accord | 1,491 (17%) |
| d'accord | 3,065 (34%) |
| ni d'accord ni pas d'accord | 1,489 (17%) |
| pas d'accord | 2,290 (26%) |
| pas du tout d'accord | 563 (6.3%) |
| Unknown | 52 |
| **Your household receives advance warning of future variability (climatic OR econo** |  |
| tout à fait d'accord | 1,987 (22%) |
| d'accord | 2,896 (33%) |
| ni d'accord ni pas d'accord | 1,183 (13%) |
| pas d'accord | 2,190 (25%) |
| pas du tout d'accord | 626 (7.0%) |
| Unknown | 68 |
| *1*n (%) | |

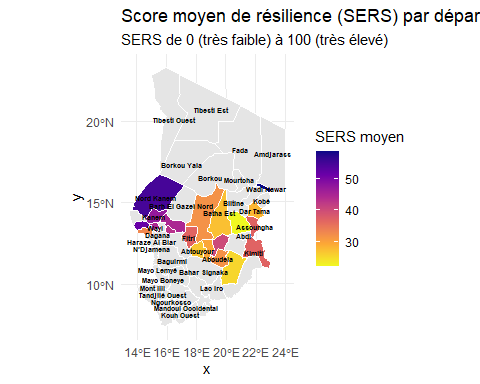
### Calcul du SERS et création des catégories

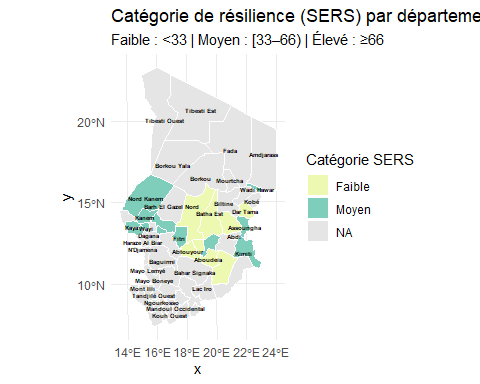
### Représentation spatiale

#### Par région









# Analyse des données et calcul des indicateurs

## Analyse socio-démographique des ménages

### Caractéristiques générales des ménages

Le tableau ci-dessous présente quelques caractéristiques socio-économiques des ménages

| **Characteristic** | **N** | **Overall** N = 8,950*1* | **Femme** N = 3,938*1* | **Homme** N = 5,012*1* |
| --- | --- | --- | --- | --- |
| **household size** | 8,950 | 7.55 (moy: 7.55, méd: 6.0) | 7.3 (moy: 7.3, méd: 6.0) | 7.8 (moy: 7.8, méd: 7.0) |
| **What is the age of the head of household (in years)?** | 8,950 | 43 (moy: 43, méd: 42.0) | 40.1 (moy: 40.1, méd: 40.0) | 45.2 (moy: 45.2, méd: 45.0) |
| **What is the level of education attained by the head of household?** | 5,926 |  |  |  |
| Aucune |  | 1,827 (31%) | 1,105 (44%) | 722 (21%) |
| Alphabétisé ou Coranique |  | 3,684 (62%) | 1,257 (50%) | 2,427 (71%) |
| Primaire |  | 265 (4.5%) | 106 (4.2%) | 159 (4.7%) |
| Secondaire |  | 126 (2.1%) | 42 (1.7%) | 84 (2.5%) |
| Superieur |  | 24 (0.4%) | 4 (0.2%) | 20 (0.6%) |
| Unknown |  | 3,024 | 1,424 | 1,600 |
| *1*Mean (moy: Mean, méd: Median); n (%) | | | | |

Le tableau ci-dessus représente certaines caractéristiques socio-démographiques des ménages en général et en fonction du sexe du chef de ménage.

## Score de consommation alimentaire (SCA)

### Analyse descriptive des variables composant le SCA

| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Consumption over the past 7 days: cereals, grains and tubers** |  |
| 0 | 54 (0.6%) |
| 1 | 81 (0.9%) |
| 2 | 64 (0.7%) |
| 3 | 79 (0.9%) |
| 4 | 82 (0.9%) |
| 5 | 251 (2.8%) |
| 6 | 345 (3.9%) |
| 7 | 7,994 (89%) |
| **Consumption over the past 7 days: pulses** |  |
| 0 | 2,516 (28%) |
| 1 | 824 (9.2%) |
| 2 | 1,917 (21%) |
| 3 | 1,665 (19%) |
| 4 | 864 (9.7%) |
| 5 | 489 (5.5%) |
| 6 | 120 (1.3%) |
| 7 | 555 (6.2%) |
| **Consumption over the past 7 days: dairy products** |  |
| 0 | 4,045 (45%) |
| 1 | 785 (8.8%) |
| 2 | 1,318 (15%) |
| 3 | 1,096 (12%) |
| 4 | 602 (6.7%) |
| 5 | 217 (2.4%) |
| 6 | 47 (0.5%) |
| 7 | 840 (9.4%) |
| **Consumption over the past 7 days: meat, fish and eggs** |  |
| 0 | 1,749 (20%) |
| 1 | 2,009 (22%) |
| 2 | 1,466 (16%) |
| 3 | 1,053 (12%) |
| 4 | 896 (10%) |
| 5 | 524 (5.9%) |
| 6 | 149 (1.7%) |
| 7 | 1,104 (12%) |
| **Consumption over the past 7 days: vegetables** |  |
| 0 | 2,222 (25%) |
| 1 | 418 (4.7%) |
| 2 | 733 (8.2%) |
| 3 | 625 (7.0%) |
| 4 | 507 (5.7%) |
| 5 | 1,305 (15%) |
| 6 | 635 (7.1%) |
| 7 | 2,505 (28%) |
| **Consumption over the past 7 days: fruit** |  |
| 0 | 7,680 (86%) |
| 1 | 501 (5.6%) |
| 2 | 395 (4.4%) |
| 3 | 194 (2.2%) |
| 4 | 90 (1.0%) |
| 5 | 42 (0.5%) |
| 6 | 9 (0.1%) |
| 7 | 39 (0.4%) |
| **Consumption over the past 7 days: fat and oil** |  |
| 0 | 555 (6.2%) |
| 1 | 286 (3.2%) |
| 2 | 291 (3.3%) |
| 3 | 421 (4.7%) |
| 4 | 436 (4.9%) |
| 5 | 712 (8.0%) |
| 6 | 562 (6.3%) |
| 7 | 5,687 (64%) |
| **Consumption over the past 7 days: sugaror sweets** |  |
| 0 | 1,150 (13%) |
| 1 | 240 (2.7%) |
| 2 | 366 (4.1%) |
| 3 | 355 (4.0%) |
| 4 | 343 (3.8%) |
| 5 | 568 (6.3%) |
| 6 | 435 (4.9%) |
| 7 | 5,493 (61%) |
| *1*n (%) | |

### Calcul du SCA

Le score de consommation alimentaire (SCA) ou Food Consumption Score (FCS) est un score composite pondéré calculé à partir des jours de consommation de certains groupes d’aliments, sur les 7 derniers jours, pondérés par leur valeur nutritionnelle. Ce score a été calculé conformément à la méthodologie standardisée du Programme Alimentaire Mondial (PAM), en appliquant des poids nutritionnels spécifiques à huit groupes d’aliments, comme défini dans le guide technique du SCA : 2 pour les céréales, 3 pour les légumineuses, 4 pour les produits laitiers et les protéines animales, 1 pour les légumes et fruits, 0,5 pour les graisses et le sucre. Formule de calcul :

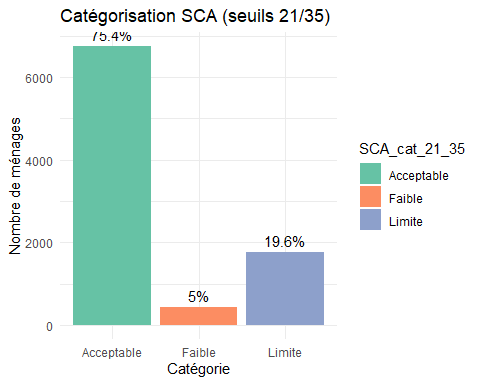
| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Score de Consommation Alimentaire (SCA)** | 47.3 ± 16.9 | Min: 0.0 | Max: 112.0 |
| *1*Mean ± SD | Min: Min | Max: Max | |

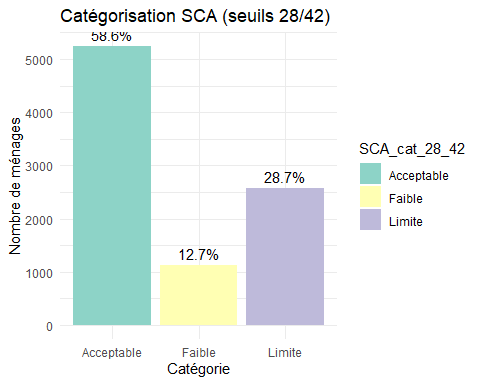
### Tableaux des poids

D’après le Programme alimentaire mondial , les poids sont répartis ainsi | Groupe alimentaire | Variable | Poids | |—————————–|—————-|——-| | Céréales, tubercules | FCSStap | 2 | | Légumineuses / noix | FCSPulse | 3 | | Produits laitiers | FCSDairy | 4 | | Viande, poisson, œufs | FCSPr | 4 | | Légumes | FCSVeg | 1 | | Fruits | FCSFruit | 1 | | Huiles, graisses | FCSFat | 0.5 | | Sucre et sucreries | FCSSugar | 0.5 |

### Categorisation du SCA selon les seuil 21/35 et 28/42

Visualisation des catégories





### Représentation spatiale par région et par département du SCA et des catégories

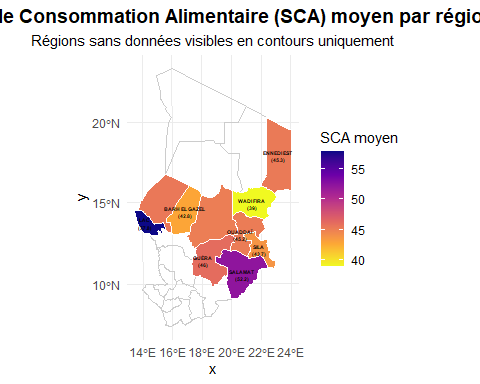
Les shapefiles pour la représentation spatiale ont été trouvées dans le site HDX

#### Représentation spatiale par région du SCA et des catégories

On va pour cela agréger le SCA par région et fusionner la base avec le shapefile suivant la clé région

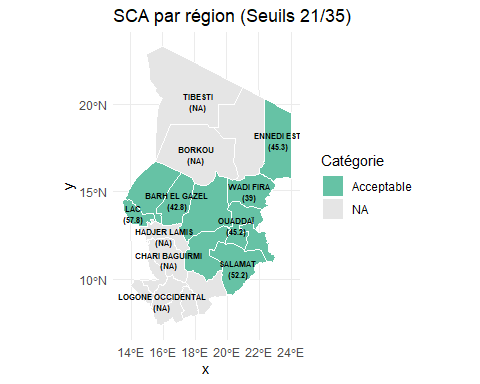
Nettoyage des noms des clés avant la fusion

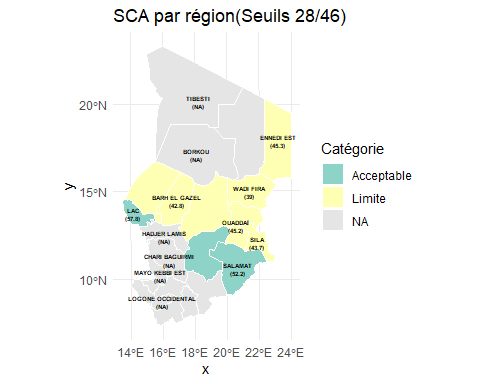
Carte du SCA



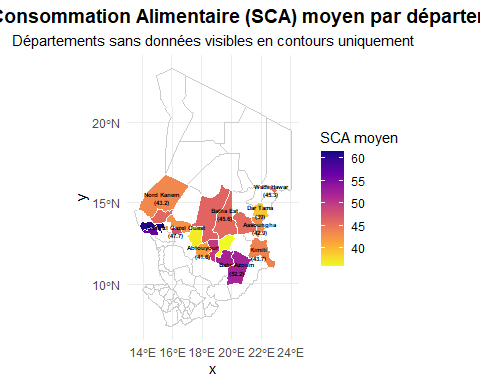
**Figure** **:** Score de Consommation Alimentaire (SCA) moyen par région

Carte du SCA suivant les catégories





#### Représentation spatiale par département du SCA et des catégories



## L’indice réduit des stratégies de survie (rCSI):

Le rCSI (reduced Coping Strategies Index) est un score composite pondéré mesurant les stratégies d’adaptation face à l’insécurité alimentaire au cours des 7 derniers jours. Chaque stratégie a un poids reflétant sa gravité perçue.

### Analyse descriptive des variables composant le rCSI

| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Relied on less preferred, less expensive food** |  |
| 0 | 4,065 (45%) |
| 1 | 2,233 (25%) |
| 2 | 1,475 (16%) |
| 3 | 633 (7.1%) |
| 4 | 186 (2.1%) |
| 5 | 129 (1.4%) |
| 6 | 36 (0.4%) |
| 7 | 193 (2.2%) |
| **Borrowed food or relied on help from friends or relatives** |  |
| 0 | 4,209 (47%) |
| 1 | 2,162 (24%) |
| 2 | 1,449 (16%) |
| 3 | 643 (7.2%) |
| 4 | 176 (2.0%) |
| 5 | 111 (1.2%) |
| 6 | 28 (0.3%) |
| 7 | 172 (1.9%) |
| **Reduced portion size of meals at meals time** |  |
| 0 | 5,543 (62%) |
| 1 | 1,767 (20%) |
| 2 | 994 (11%) |
| 3 | 424 (4.7%) |
| 4 | 124 (1.4%) |
| 5 | 42 (0.5%) |
| 6 | 11 (0.1%) |
| 7 | 45 (0.5%) |
| **Restricted consumption by adults in order for young children to eat** |  |
| 0 | 6,761 (76%) |
| 1 | 1,319 (15%) |
| 2 | 518 (5.8%) |
| 3 | 227 (2.5%) |
| 4 | 68 (0.8%) |
| 5 | 25 (0.3%) |
| 6 | 4 (<0.1%) |
| 7 | 28 (0.3%) |
| **Reduced the number of meals eaten per day** |  |
| 0 | 5,737 (64%) |
| 1 | 1,738 (19%) |
| 2 | 898 (10%) |
| 3 | 350 (3.9%) |
| 4 | 120 (1.3%) |
| 5 | 51 (0.6%) |
| 6 | 8 (<0.1%) |
| 7 | 48 (0.5%) |
| *1*n (%) | |

### Calculer l’indice réduit des stratégies de survie

| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Relied on less preferred, less expensive food** | 5.8 ± 7.5 | Min: 0.0, Max: 56.0 |
| *1*Mean ± SD | Min: Min, Max: Max | |

### Tableaux des poids pour le rCSI

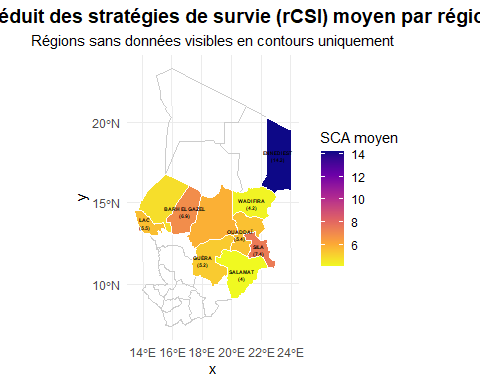
Les poids utilisés pour le calcul de l’indice réduit des stratégies de survie (rCSI) sont fournis par le Programme Alimentaire Mondial (PAM), et reflètent la gravité perçue des différentes stratégies de survie face à la pénurie alimentaire (PAM, 2021).

### Représentation spatiale par région et par département

#### Par région

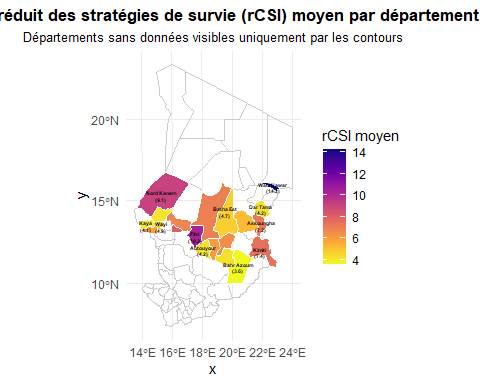
Nettoyage des noms des clés avant la fusion

Carte du SCA



**Figure** **:** Indice réduit des stratégies de survie (rCSI) moyen par région

#### Par dépatement

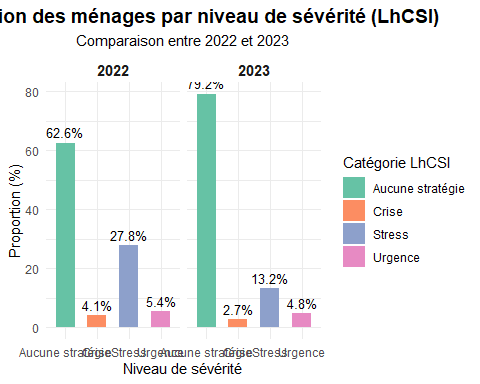


## Stratégies d’adaptation aux moyens d’existence (LhCSI)

### Analyse descriptive des variables du LhCSI

| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **Sold household assets/goods (radio, furniture, refrigerator, television, jewelle** |  |
| No, because I did not need to | 0 (0%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 0 (0%) |
| Yes | 0 (0%) |
| Not applicable (don't have children/these assets) | 8,950 (100%) |
| **Spent savings due to lack of food** |  |
| No, because I did not need to | 3,156 (35%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,473 (16%) |
| Yes | 420 (4.7%) |
| Not applicable (don't have children/these assets) | 3,901 (44%) |
| **Sent household members to eat elsewhere/live with family or friends due to lack** |  |
| No, because I did not need to | 2,763 (31%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,233 (14%) |
| Yes | 375 (4.2%) |
| Not applicable (don't have children/these assets) | 4,579 (51%) |
| **Purchased food/non-food on credit (incur debts) due to lack of food** |  |
| No, because I did not need to | 3,258 (36%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,384 (15%) |
| Yes | 1,719 (19%) |
| Not applicable (don't have children/these assets) | 2,589 (29%) |
| **Sold productive assets or means of transport (sewing machine, wheelbarrow, bicyc** |  |
| No, because I did not need to | 3,487 (39%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,549 (17%) |
| Yes | 300 (3.4%) |
| Not applicable (don't have children/these assets) | 3,614 (40%) |
| **Reduced expenses on health (including drugs)** |  |
| No, because I did not need to | 2,870 (32%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,269 (14%) |
| Yes | 163 (1.8%) |
| Not applicable (don't have children/these assets) | 4,648 (52%) |
| **Withdrew children from school due to lack of food** |  |
| No, because I did not need to | 3,231 (36%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,397 (16%) |
| Yes | 108 (1.2%) |
| Not applicable (don't have children/these assets) | 4,214 (47%) |
| **Mortgaged/Sold house or land due to lack of food** |  |
| No, because I did not need to | 3,259 (36%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,387 (15%) |
| Yes | 53 (0.6%) |
| Not applicable (don't have children/these assets) | 4,251 (47%) |
| **Begged and/or scavenged (asked strangers for money/food) due to lack of food** |  |
| No, because I did not need to | 3,140 (35%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,437 (16%) |
| Yes | 282 (3.2%) |
| Not applicable (don't have children/these assets) | 4,091 (46%) |
| **Engaged in illegal income activities (theft, prostitution) due to lack of food** |  |
| No, because I did not need to | 3,138 (35%) |
| No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it | 1,379 (15%) |
| Yes | 202 (2.3%) |
| Not applicable (don't have children/these assets) | 4,231 (47%) |
| *1*n (%) | |

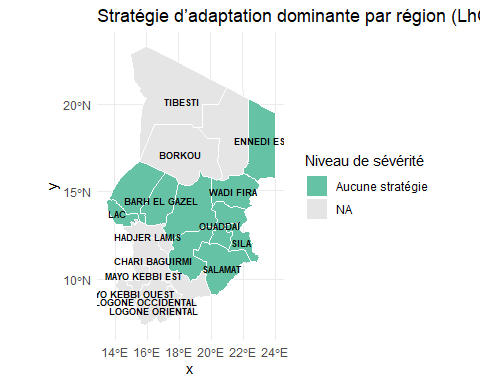
### Proportion de menage en situation de stress, de crise et d’urgence en 2022 et 2023



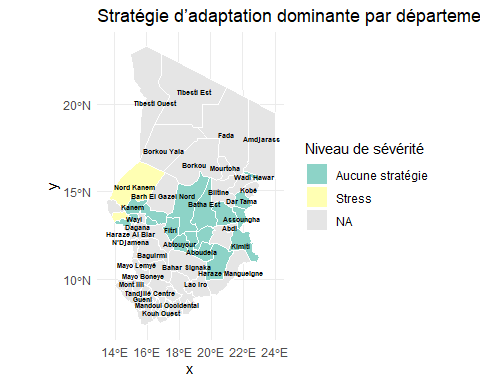
### Representation spatiale (region et departement) des strategies d’adaptation

#### Representation spatiale par region des strategies d’adaptation

Ici, on représntera les statégies d’adaptation dominante



#### Representation spatiale par département des strategies d’adaptation



## Score de diversité alimentaire des ménages

### Analyse descriptive des variables qui composent le SERS

## The following errors were returned during `tbl\_summary()`:  
## ✖ For variable `SERS` and "n" statistic: argument inutilisé (c(65, 75, 50, 70,  
## 0, 80, 72.5, 7.5, 25, 55, 12.5, 50, 92.5, 27.5, 7.5, 27.5, 57.5, 0, 25, 92.5,  
## 75, 15, 25, 32.5, 12.5, 22.5, 5, 30, 25, 7.5, 12.5, 12.5, 15, 50, 7.5, 72.5,  
## 32.5, 0, 0, 10, 75, 10, 22.5, 82.5, 60, 22.5, 80, 70, 25, 22.5, 55, 0, 37.5,  
## 17.5, 10, 65, 42.5, 72.5, 22.5, 57.5, 72.5, 25, 35, 20, 10, 75, 65, 7.5, 25,  
## 80, 75, 27.5, 60, 25, 60, 70, 85, 92.5, 52.5, 30, 60, 60, 70, 92.5, 20, 55,  
## 7.5, 72.5, 27.5, 75, 25, 7.5, 25, 62.5, 77.5, 5, 75, 12.5, 35, 15, 15, 25,  
## 25, 50, 70, 30, 65, 80, 30, 67.5, 25, 5, 25, 55, 12.5, 5, 15, 37.5, 30, 7.5,  
## 80, 12.5, 65, 12.5, 0, 70, 72.5, 75, 0, 67.5, 15, 55, 0, 32.5, 25, 55, 22.5,  
## 22.5, 25, 32.5, 42.5, 37.5, 25, 72.5, 27.5, 22.5, 55, 37.5, 17.5, 0, 0, 32.5,  
## 35, 22.5, 22.5, 35, 52.5, 67.5, 15, 92.5, 27.5, 60, 25, 67.5, 15, 70, 40, 55,  
## 57.5, 40, 5, 57.5, 45, 20, 32.5, 22.5, 52.5, 70, 32.5, 77.5, 82.5, 75, 92.5,  
## 22.5, 10, 72.5, 75, 27.5, 45, 12.5, 72.5, 67.5, 100, 7.5, 20, 27.5, 37.5,  
## 22.5, 25, 7.5, 55, 0, 5, 30, 82.5, 0, 22.5, 10, 25, 75, 12.5, 77.5, 70, 77.5,  
## 25, 37.5, 25, 67.5, 10, 82.5, 7.5, 75, 15, 25, 27.5, 17.5, 12.5, 70, 45, 65,  
## 25, 27.5, 92.5, 10, 37.5, 70, 2.5, 52.5, 35, 22.5, 25, 20, 75, 67.5, 25, 20,  
## 50, 70, 75, 50, 0, 22.5, 15, 2.5, 5, 27.5, 25, 10, 0, 30, 72.5, 57.5, 75, 5,  
## 80, 25, 65, 65, 30, 27.5, 25, 67.5, 50, 75, 25, 60, 2.5, 72.5, 10, 15, 72.5,  
## 25, 12.5, 82.5, 25, 60, 25, 70, 57.5, 25, 0, 25, 72.5, 70, 12.5, 65, 27.5,  
## 72.5, 5, 37.5, 27.5, 85, 30, 27.5, 55, 5, 82.5, 62.5, 22.5, 65, 50, 85, 77.5,  
## 82.5, 37.5, 70, 0, 0, 72.5, 22.5, 72.5, 17.5, 20, 57.5, 12.5, 25, 25, 7.5,  
## 37.5, 17.5, 12.5, 25, 10, 75, 55, 75, 30, 45, 72.5, 35, 7.5, 12.5, 40, 7.5,  
## 55, 72.5, 10, 40, 25, 22.5, 75, 22.5, 5, 12.5, 55, 50, 77.5, 25, 32.5, 62.5,  
## 5, 22.5, 32.5, 67.5, 22.5, 77.5, 50, 25, 35, 22.5, 2.5, 30, 12.5, 25, 47.5,  
## 25, 75, 25, 52.5, 20, 57.5, 70, 45, 75, 55, 15, 72.5, 0, 10, 0, 30, 32.5,  
## 72.5, 70, 57.5, 92.5, 25, 62.5, 55, 15, 0, 30, 62.5, 40, 22.5, 32.5, 70,  
## 57.5, 45, 72.5, 37.5, 65, 10, 15, 40, 25, 67.5, 57.5, 20, 20, 0, 25, 72.5,  
## 40, 70, 65, 0, 42.5, 37.5, 25, 55, 45, 67.5, 25, 22.5, 80, 35, 65, 70, 10,  
## 25, 72.5, 12.5, 25, 92.5, 25, 7.5, 85, 10, 57.5, 25, 57.5, 12.5, 25, 40,  
## 27.5, 52.5, 62.5, 57.5, 67.5, 27.5, 30, 22.5, 27.5, 50, 27.5, 27.5, 75, 62.5,  
## 25, 0, 10, 27.5, 25, 30, 15, 72.5, 82.5, 60, 12.5, 2.5, 27.5, 10, 60, 10,  
## 32.5, 20, 55, 0, 32.5, 0, 25, 25, 12.5, 0, 70, 55, 15, 0, 72.5, 30, 25, 0,  
## 22.5, 15, 35, 62.5, 75, 27.5, 0, 72.5, 0, 0, 25, 77.5, 30, 55, 67.5, 55, 70,  
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## 72.5, 92.5, 0, 92.5, 42.5, 72.5, 75, 55, 25, 70, 82.5, 25, 50, 25, 45, 27.5,  
## 27.5, 20, 17.5, 27.5, 47.5, 17.5, 42.5, 12.5, 70, 65, 60, 27.5, 50, 35, 65,  
## 0, 80, 50, 52.5, 25, 37.5, 60, 10, 15, 0, 57.5, 5, 15, 0, 25, 25, 70, 65,  
## 32.5, 0, 12.5, 80, 65, 30, 22.5, 37.5, 25, 10, 20, 30, 12.5, 30, 10, 5, 77.5,  
## 5, 15, 55, 25, 22.5, 17.5, 70, 25, 67.5, 32.5, 15, 57.5, 72.5, 75, 0, 20,  
## 22.5, 25, 25, 67.5, 27.5, 75, 25, 77.5, 25, 20, 50, 57.5, 20, 65, 50, 25,  
## 2.5, 22.5, 37.5, 20, 67.5, 62.5, 17.5, 57.5, 25, 0, 17.5, 30, 0, 5, 62.5,  
## 12.5, 55, 75, 12.5, 67.5, 75, 67.5, 0, 75, 25, 75, 15, 22.5, 35, 22.5, 77.5,  
## 15, 10, 10, 60, 65, 35, 15, 75, 65, 12.5, 67.5, 20, 25, 12.5, 35, 7.5, 62.5,  
## 72.5, 45, 50, 37.5, 0, 32.5, 72.5, 77.5, 70, 22.5, 10, 12.5, 92.5, 10, 22.5,  
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## 75, 62.5, 92.5, 25, 32.5, 25, 12.5, 25, 40, 10, 50, 12.5, 10, 17.5, 65, 7.5,  
## 60, 92.5, 12.5, 22.5, 25, 25, 57.5, 10, 0, 70, 80, 60, 25, 37.5, 25, 22.5,  
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## 17.5, 40, 30, 65, 75, 75, 15, 70, 75, 75, 45, 25, 70, 70, 70, 57.5, 65, 70,  
## 70, 5, 62.5, 65, 12.5, 62.5, 22.5, 62.5, 35, 12.5, 37.5, 25, 22.5, 70, 77.5,  
## 10, 10, 80, 55, 20, 42.5, 32.5, 2.5, 40, 7.5, 7.5, 12.5, 17.5, 45, 55, 27.5,  
## 27.5, 17.5, 25, 25, 45, 37.5, 60, 40, 40, 7.5, 40, 10, 37.5, 25, 75, 25, 65,  
## 15, 15, 10, 17.5, 62.5, 40, 12.5, 5, 10, 77.5, 12.5, 52.5, 12.5, 0, 7.5, 30,  
## 25, 5, 10, 5, 10, 7.5, 12.5, 12.5, 10, 12.5, 57.5, 85, 15, 75, 15, 45, 67.5,  
## 10, 65, 17.5, 25, 50, 32.5, 35, 30, 32.5, 22.5, 50, 75, 75, 75, 0, 70, 30,  
## 60, 15, 65, 75, 22.5, 32.5, 22.5, 25, 75, 20, 65, 55, 7.5, 15, 75, 30, 25,  
## 25, 32.5, 32.5, 37.5, 62.5, 70, 7.5, 75, 77.5, 10, 75, 12.5, 60, 30, 15, 25,  
## 35, 25, 47.5, 25, 20, 15, 12.5, 22.5, 20, 22.5, 62.5, 97.5, 22.5, 17.5, 15,  
## 15, 0, 72.5, 5, 2.5, 12.5, 52.5, 32.5, 12.5, 42.5, 70, 75, 70, 17.5, 55, 25,  
## 80, 75, 57.5, 30, 32.5, 15, 10, 27.5, 15, 40, 47.5, 17.5, 5, 75, 35, 17.5,  
## 65, 70, 20, 17.5, 42.5, 25, 35, 25, 20, 25, 15, 20, 25, 0, 92.5, 52.5, 75,  
## 12.5, 10, 35, 22.5, 22.5, 22.5, 45, 27.5, 22.5, 82.5, 20, 25, 0, 0, 77.5,  
## 22.5, 20, 0, 60, 20, 15, 25, 30, 27.5, 17.5, 30, 65, 27.5, 15, 25, 62.5,  
## 87.5, 12.5, 85, 72.5, 2.5, 57.5, 50, 77.5, 22.5, 22.5, 65, 0, 35, 75, 0,  
## 62.5, 77.5, 62.5, 25, 80, 80, 2.5, 30, 5, 45, 47.5, 20, 67.5, 50, 50, 15,  
## 17.5, 12.5, 25, 60, 25, 40, 72.5, 77.5, 50, 67.5, 12.5, 82.5, 45, 17.5, 55,  
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## 27.5, 70, 50, 75, 47.5, 10, 25, 82.5, 75, 10, 25, 0, 77.5, 17.5, 7.5, 12.5,  
## 12.5, 92.5, 10, 5, 22.5, 2.5, 30, 20, 65, 57.5, 50, 55, 70, 12.5, 12.5, 22.5,  
## 67.5, 25, 2.5, 0, 70, 47.5, 10, 12.5, 32.5, 5, 17.5, 77.5, 60, 35, 87.5, 25,  
## 12.5, 70, 22.5, 12.5, 27.5, 70, 75, 25, 10, 25, 75, 0, 42.5, 20, 0, 22.5,  
## 77.5, 45, 50, 72.5, 72.5, 22.5, 22.5, 0, 25, 12.5, 62.5, 15, 72.5, 80, 25,  
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## 20, 75, 25, 22.5, 10, 25, 20, 27.5, 77.5, 75, 20, 25, 32.5, 7.5, 25, 17.5,  
## 70, 75, 15, 40, 32.5, 25, 40, 25, 65, 42.5, 75, 0, 40, 75, 10, 30, 70, 20,  
## 60, 5, 0, 7.5, 70, 72.5, 52.5, 77.5, 72.5, 75, 20, 62.5, 32.5, 52.5, 30, 65,  
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## 47.5, 5, 80, 5, 72.5, 25, 10, 15, 10, 55, 50, 72.5, 25, 30, 7.5, 0, 37.5,  
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## 17.5, 5, 45, 37.5, 25, 25, 30, 30, 10, 25, 22.5, 57.5, 30, 62.5, 47.5, 25,  
## 45, 22.5, 75, 52.5, 0, 0, 7.5, 12.5, 75, 32.5, 0, 25, 75, 85, 5, 45, 0, 20,  
## 22.5, 17.5, 85, 0, 62.5, 12.5, 10, 20, 25, 47.5, 12.5, 22.5, 55, 10, 12.5,  
## 10, 25, 7.5, 12.5, 25, 25, 7.5, 20, 35, 65, 12.5, 22.5, 0, 72.5, 35, 25, 25,  
## 32.5, 75, 20, 100, 25, 55, 22.5, 27.5, 7.5, 32.5, 2.5, 70, 27.5, 25, 20,  
## 37.5, 72.5, 80, 37.5, 75, 52.5, 25, 10, 12.5, 25, 70, 27.5, 7.5, 25, 22.5,  
## 60, 25, 2.5, 75, 20, 15, 40, 7.5, 27.5, 70, 45, 75, 17.5, 35, 15, 7.5, 62.5,  
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## 22.5, 17.5, 20, 12.5, 25, 10, 52.5, 0, 27.5, 12.5, 12.5, 37.5, 20, 72.5, 2.5,  
## 65, 55, 82.5, 12.5, 77.5, 20, 17.5, 0, 30, 60, 75, 70, 52.5, 30, 10, 12.5,  
## 55, 15, 0, 35, 15, 10, 10, 77.5, 32.5, 12.5, 55, 42.5, 22.5, 20, 25, 25,  
## 22.5, 25, 55, 22.5, 62.5, 17.5, 30, 25, 37.5, 75, 35, 15, 7.5, 25, 0, 22.5,  
## 0, 75, 45, 2.5, 25, 25, 25, 55, 22.5, 37.5, 10, 5, 22.5, 22.5, 70, 25, 25,  
## 67.5, 5, 2.5, 30, 22.5, 27.5, 72.5, 47.5, 67.5, 22.5, 65, 0, 57.5, 25, 0, 0,  
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## 62.5, 25, 0, 22.5, 7.5, 50, 67.5, 22.5, 7.5, 55, 67.5, 80, 15, 25, 75, 25,  
## 75, 15, 92.5, 12.5, 42.5, 60, 72.5, 15, 90, 20, 27.5, 60, 47.5, 70, 52.5,  
## 77.5, 37.5, 75, 40, 0, 62.5, 20, 75, 25, 75, 17.5, 45, 5, 52.5, 27.5, 20, 30,  
## 25, 67.5, 87.5, 25, 72.5, 37.5, 10, 2.5, 80, 0, 75, 92.5, 77.5, 0, 55, 5,  
## 12.5, 12.5, 15, 7.5, 72.5, 20, 12.5, 30, 15, 0, 25, 25, 7.5, 0, 67.5, 22.5,  
## 22.5, 20, 12.5, 62.5, 17.5, 60, 65, 7.5, 30, 20, 67.5, 22.5, 22.5, 25, 65,  
## 30, 15, 37.5, 22.5, 60, 22.5, 62.5, 67.5, 72.5, 77.5, 17.5, 27.5, 25, 55, 25,  
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## 55, 37.5, 27.5, 1  
## ✖ For variable `SERS\_total` and "n" statistic: argument inutilisé (c(36, 40,  
## 30, 38, 10, 42, 39, 13, 20, 32, 15, 30, 47, 21, 13, 21, 33, 10, 20, 47, 40,  
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## 16, 25, 22, 13, 42, 15, 36, 15, 10, 38, 39, 40, 10, 37, 16, 32, 10, 23, 20,  
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## 41, 38, 41, 20, 25, 20, 37, 14, 43, 13, 40, 16, 20, 21, 17, 15, 38, 28, 36,  
## 20, 21, 47, 14, 25, 38, 11, 31, 24, 19, 20, 18, 40, 37, 20, 18, 30, 38, 40,  
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## 32, 39, 14, 26, 20, 19, 40, 19, 12, 15, 32, 30, 41, 20, 23, 35, 12, 19, 23,  
## 37, 19, 41, 30, 20, 24, 19, 11, 22, 15, 20, 29, 20, 40, 20, 31, 18, 33, 38,  
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## 32, 16, 10, 39, 22, 20, 10, 19, 16, 24, 35, 40, 21, 10, 39, 10, 10, 20, 41,  
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## 32, 38, 16, 17, 15, 25, 14, 20, 40, 35, 47, 20, 23, 20, 15, 20, 26, 14, 30,  
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## 18, 16, 15, 19, 18, 19, 35, 49, 19, 17, 16, 16, 10, 39, 12, 11, 15, 31, 23,  
## 15, 27, 38, 40, 38, 17, 32, 20, 42, 40, 33, 22, 23, 16, 14, 21, 16, 26, 29,  
## 17, 12, 40, 24, 17, 36, 38, 18, 17, 27, 20, 24, 20, 18, 20, 16, 18, 20, 10,  
## 47, 31, 40, 15, 14, 24, 19, 19, 19, 28, 21, 19, 43, 18, 20, 10, 10, 41, 19,  
## 18, 10, 34, 18, 16, 20, 22, 21, 17, 22, 36, 21, 16, 20, 35, 45, 15, 44, 39,  
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## 43, 28, 17, 32, 22, 17, 19, 15, 32, 20, 20, 14, 20, 40, 20, 50, 19, 16, 20,  
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## 22, 18, 36, 33, 30, 32, 38, 15, 15, 19, 37, 20, 11, 10, 38, 29, 14, 15, 23,  
## 12, 17, 41, 34, 24, 45, 20, 15, 38, 19, 15, 21, 38, 40, 20, 14, 20, 40, 10,  
## 27, 18, 10, 19, 41, 28, 30, 39, 39, 19, 19, 10, 20, 15, 35, 16, 39, 42, 20,  
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## 20, 36, 27, 40, 10, 26, 40, 14, 22, 38, 18, 34, 12, 10, 13, 38, 39, 31, 41,  
## 39, 40, 18, 35, 23, 31, 22, 36, 22, 11, 40, 22, 30, 29, 37, 12, 20, 20, 10,  
## 20, 38, 39, 14, 20, 40, 29, 12, 42, 12, 39, 20, 14, 16, 14, 32, 30, 39, 20,  
## 22, 13, 10, 25, 19, 42, 14, 40, 23, 40, 34, 31, 17, 25, 40, 39, 36, 10, 39,  
## 25, 40, 15, 41, 39, 21, 20, 38, 19, 9, 23, 25, 34, 20, 20, 26, 26, 31, 13,  
## 35, 22, 38, 17, 34, 44, 47, 40, 14, 24, 36, 47, 17, 12, 28, 25, 20, 20, 22,  
## 22, 14, 20, 19, 33, 22, 35, 29, 20, 28, 19, 40, 31, 10, 10, 13, 15, 40, 23,  
## 10, 20, 40, 44, 12, 28, 10, 18, 19, 17, 44, 10, 35, 15, 14, 18, 20, 29, 15,  
## 19, 32, 14, 15, 14, 20, 13, 15, 20, 20, 13, 18, 24, 36, 15, 19, 10, 39, 24,  
## 20, 20, 23, 40, 18, 50, 20, 32, 19, 21, 13, 23, 11, 38, 21, 20, 18, 25, 39,  
## 42, 25, 40, 31, 20, 14, 15, 20, 38, 21, 13, 20, 19, 34, 20, 11, 40, 18, 16,  
## 26, 13, 21, 38, 28, 40, 17, 24, 16, 13, 35, 30, 39, 15, 36, 36, 21, 16, 44,  
## 13, 20, 13, 17, 16, 20, 24, 19, 19, 17, 18, 15, 20, 14, 31, 10, 21, 15, 15,  
## 25, 18, 39, 11, 36, 32, 43, 15, 41, 18, 17, 10, 22, 34, 40, 38, 31, 22, 14,  
## 15, 32, 16, 10, 24, 16, 14, 14, 41, 23, 15, 32, 27, 19, 18, 20, 20, 19, 20,  
## 32, 19, 35, 17, 22, 20, 25, 40, 24, 16, 13, 20, 10, 19, 10, 40, 28, 11, 20,  
## 20, 20, 32, 19, 25, 14, 12, 19, 19, 38, 20, 20, 37, 12, 11, 22, 19, 21, 39,  
## 29, 37, 19, 36, 10, 33, 20, 10, 10, 42, 28, 36, 47, 27, 22, 26, 10, 15, 22,  
## 24, 12, 39, 15, 11, 19, 12, 12, 28, 10, 24, 10, 31, 26, 24, 39, 22, 20, 41,  
## 36, 12, 40, 41, 20, 32, 35, 20, 10, 19, 13, 30, 37, 19, 13, 32, 37, 42, 16,  
## 20, 40, 20, 40, 16, 47, 15, 27, 34, 39, 16, 46, 18, 21, 34, 29, 38, 31, 41,  
## 25, 40, 26, 10, 35, 18, 40, 20, 40, 17, 28, 12, 31, 21, 18, 22, 20, 37, 45,  
## 20, 39, 25, 14, 11, 42, 10, 40, 47, 41, 10, 32, 12, 15, 15, 16, 13, 39, 18,  
## 15, 22, 16, 10, 20, 20, 13, 10, 37, 19, 19, 18, 15, 35, 17, 34, 36, 13, 22,  
## 18, 37, 19, 19, 20, 36, 22, 16, 25, 19, 34, 19, 35, 37, 39, 41, 17, 21, 20,  
## 32, 20, 20, 16, 14, 10, 35, 11, 23, 20, 15, 21, 38, 31, 14, 20, 20, 32, 19,  
## 22, 25, 14, 24, 21, 11, 22, 36, 30, 36, 32, 26, 21, 10, 14, 30, 32, 25, 21,  
## 17, 24, 22, 21, 22, 22, 20, 17, 36, 20, 17, 23, 34, 24, 17, 38, 14, 32, 33,  
## 22, 15, 24, 24, 31, 24, 29, 42, 22, 21, 36, 19, 14, 21, 32, 26, 21, 23, 38,  
## 34, 16, 30, 20, 39, 19, 13, 30, 21, 39, 26, 21, 22, 32, 24, 10, 28, 20, 14,  
## 22, 9, 16, 27, 40, 13, 33, 32, 22, 10, 38, 17, 21, 24, 37, 22, 29, 10, 35,  
## 41, 15, 35, 17, 22, 26, 25, 17, 17, 40, 34, 13, 24, 38, 16, 22, 26, 32, 18,  
## 20, 16, 22, 11, 37, 24, 26, 36, 24, 20, 37, 29, 22, 28, 29, 25, 20, 12, 25,  
## 24, 12, 31, 27, 14, 38, 29, 34, 34, 32, 40, 20, 33, 26, 23, 22, 27, 46, 21,  
## 21, 14, 36, 34, 25, 25, 33, 24, 22, 36, 16, 26, 32, 19, 20, 28, 16, 34, 28,  
## 20, 20, 36, 20, 20, 10, 15, 27, 19, 24, 32, 27, 40, 22, 23, 32, 20, 24, 30,  
## 36, 22, 24, 38, 31, 28, 33, 26, 24, 20, 20, 22, 38, 20, 10, 21, 22, 17, 33,  
## 25, 25, 34, 25, 23, 29, 20, 19, 26, 28, 12, 32, 25, 27, 20, 35, 29, 13, 33,  
## 33, 25, 36, 33, 44, 35, 48, 27, 39, 26, 20, 36, 27, 15, 35, 27, 35, 31, 37,  
## 22, 47, 21, 36, 38, 17, 15, 33, 34, 34, 31, 22, 19, 17, 34, 20, 17, 16, 24,  
## 28, 18, 16, 19, 16, 36, 22, 12, 45, 30, 22, 40, 41, 15, 21, 38, 24, 17, 20,  
## 22, 13, 14, 18, 32, 10, 10, 25, 34, 27, 19, 24, 14, 23, 28, 21, 26, 29, 13,  
## 25, 38, 27, 22, 20, 26, 20, 20, 32, 11, 27, 10, 22, 19, 14, 15, 20, 35, 15,  
## 30, 22, 28, 3

| **Characteristic** | **N = 8,950***1* |
| --- | --- |
| **SERSRebondir** |  |
| 1 | 2,465 |
| 2 | 3,461 |
| 3 | 888 |
| 4 | 1,733 |
| 5 | 403 |
| **SERSRevenue** |  |
| 1 | 2,146 |
| 2 | 3,766 |
| 3 | 1,069 |
| 4 | 1,656 |
| 5 | 313 |
| **SERSMoyen** |  |
| 1 | 1,810 |
| 2 | 3,384 |
| 3 | 1,346 |
| 4 | 2,018 |
| 5 | 392 |
| **SERSDifficultes** |  |
| 1 | 2,181 |
| 2 | 3,208 |
| 3 | 1,030 |
| 4 | 2,129 |
| 5 | 402 |
| **SERSSurvivre** |  |
| 1 | 1,518 |
| 2 | 3,136 |
| 3 | 1,428 |
| 4 | 2,308 |
| 5 | 560 |
| **SERSFamAmis** |  |
| 1 | 2,870 |
| 2 | 3,972 |
| 3 | 948 |
| 4 | 968 |
| 5 | 192 |
| **SERSPoliticiens** |  |
| 1 | 2,815 |
| 2 | 3,318 |
| 3 | 1,206 |
| 4 | 1,307 |
| 5 | 304 |
| **SERSLecons** |  |
| 1 | 2,090 |
| 2 | 3,767 |
| 3 | 1,222 |
| 4 | 1,574 |
| 5 | 297 |
| **SERSPreparerFuture** |  |
| 1 | 1,491 |
| 2 | 3,065 |
| 3 | 1,489 |
| 4 | 2,290 |
| 5 | 563 |
| Unknown | 52 |
| **SERSAvertissementEven** |  |
| 1 | 1,987 |
| 2 | 2,896 |
| 3 | 1,183 |
| 4 | 2,190 |
| 5 | 626 |
| Unknown | 68 |
| **SERS\_total** | NA |
| **SERS** | NA |
| **SERS\_cat** |  |
| Élevé | 1,073 |
| Faible | 4,672 |
| Moyen | 3,205 |
| *1*n | |

### Calcul du SERS et création des catégories

### Représentation spatiale

#### Par région

