UNHCR
The UN Refugee Agency

OFFICIAL REPORT

Sahrawi Refugees in Tindouf, Algeria: Total In-Camp Population

MARCH 2018

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1. INTRODUCTION

The following report outlines the main findings of a team of technical experts deployed by the UN High Commissioner for Refugees (UNHCR) in January 2018 to update the population figure of the Sahrawi refugees living in the five camps in Tindouf, Algeria. The current planning figures of 125,000 individuals receiving food and nutrition assistance, and 90,000 individuals representing the most vulnerable refugees, have remained the same since 2007 despite the population growth rate. [1]

The use of multiple, conflicting figures which have remained unchanged over several years has led to challenges, misunderstandings and requests from donors to justify funding for beneficiaries. This has also posed operational challenges for humanitarian actors at the field level, making it difficult to conduct their work effectively. Conflicting population figures have similarly affected the quality and consistency of humanitarian indicator data across all sectors where population data is used to create rates, ratios and percentages. Finally, this issue has hindered timely assistance to persons with specific needs and vulnerabilities who have not been included due to the lack of a routine update and verification of the figures.

In order to address this issue, in November 2016 the Inter-Sector Working Group[2] in Tindouf, under the auspices of UNHCR, established the Population Figure Working Group (PFWG)[3] to verify and confirm the in-camp population figure. The PFWG endorsed the proposal to confirm a population figure based on triangulating available data from various sectors and relevant sources. These data sources were threefold: the health sector for data on vaccinated infants, the education sector for data on children in school and the ID Centre in Tindouf for all adults (17+) who have applied for ID (as well as those eligible who have not yet applied).

UNHCR deployed the technical Mission Team to a) design a rigorous methodology built on the findings of the PFWG; and b) produce a transparent and evidence-based population figure for the Sahrawi refugees residing in the camps in Tindouf strictly for humanitarian purposes. The following report is the most comprehensive analysis of population figures for Sahrawi refugees in the camps in Tindouf, Algeria since 2007.

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[1] A summary of the population figures used over time is presented in Annex 1.

[2] Under the leadership of UNHCR, the Inter-Sector Working Group includes WFP (World Food Programme), UNICEF (UN Children's Fund), MPDL (El Movimiento por la Paz), CISP (Comitato Internazionale per lo Sviluppo dei Popoli), MDM (Medicos del Mundo), SI-A (Solidaridad Internacional – Andalucía), Oxfam-Solidarité (Belgium), DRC (Danish Refugee Council), INFOCOM (Info-Com Jeunes), TGH (Triangle Génération Humanitaire). This group is a coordination platform for humanitarian actors in Tindouf.

[3] Membership of the PFWG: UNHCR, UNICEF, WFP, Sahrawi Red Crescent (SRC), Oxfam Belgium, Medicos del Mundo (MDM), and Il Comitato Internazionale per lo Sviluppo dei Popoli (CISP).

2. EXECUTIVE SUMMARY

Based on the findings of the UNHCR expert Mission Team, the new population figure stands at <u>173,600</u> Sahrawi refugees residing in camps in Tindouf, Algeria as of 31 December 2017. The figure *only* captures those residing in the Awserd, Boujdour, Dakhla, Laayoune, and Smara camps in Tindouf, disaggregated by sex and age for each of the five camps.[4]

The total vulnerable population will be a subset of the total population figure. These figures will be determined on the basis of a multi-agency Vulnerability Assessment to be conducted by December 2018. The vulnerability figure is expected to be consistent with the findings of the Joint Assessment Mission carried out by WFP and UNHCR in 2016**,** which estimated that 75% of the Sahrawi in-camp population was vulnerable.

The Mission Team independently triangulated secondary[5] data from the ID Centre, the Education Department and the Health Department, comparing datasets in order to select the best available data for each age cohort. They documented the methods by which the figure was produced so that the evidence base is transparent and the method may be replicated in the future. Special attention should be given to the attached Annexes which provide extensive information on the Data Audit Log, for transparency and accountability purposes.

The calculation excluded out-of-camp populations, students 18 years of age and over who are studying outside of the camps, and school-aged drop-outs from previous years. Given the rigorous methodology applied by the Mission Team and the decision to err on the side of caution by excluding the categories noted, the in-camp population figure is a conservative number intended strictly for humanitarian assistance purposes.

Throughout the process, the Mission Team ensured compliance with UNHCR's *Policy on the Protection of Personal Data* when reviewing, collecting and analyzing the data. Personal and identifiable data were excluded from the datasets which the Mission Team used in the data analysis, and only the minimum number of fields from the database necessary for the purpose were extracted. Only anonymized data has been displayed in this report.

In addition to the main findings of the report, the Mission Team determined that the average household size used by humanitarian actors is incorrect and should be updated to reflect the outcomes of the nutrition survey carried out in 2016 which established the average household size to be 6.4 persons rather than the 5 persons currently used.
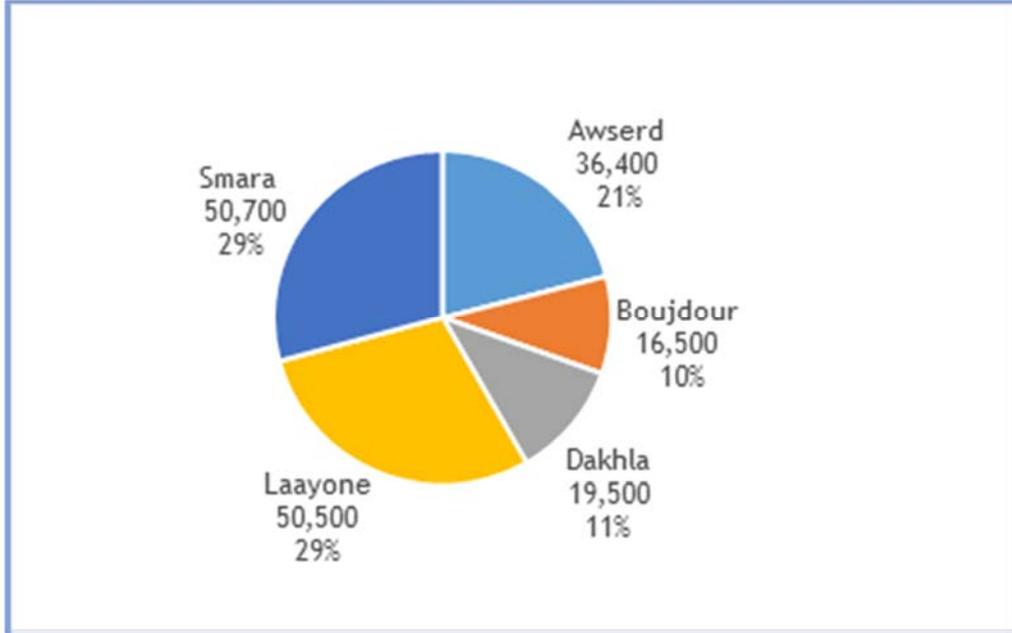

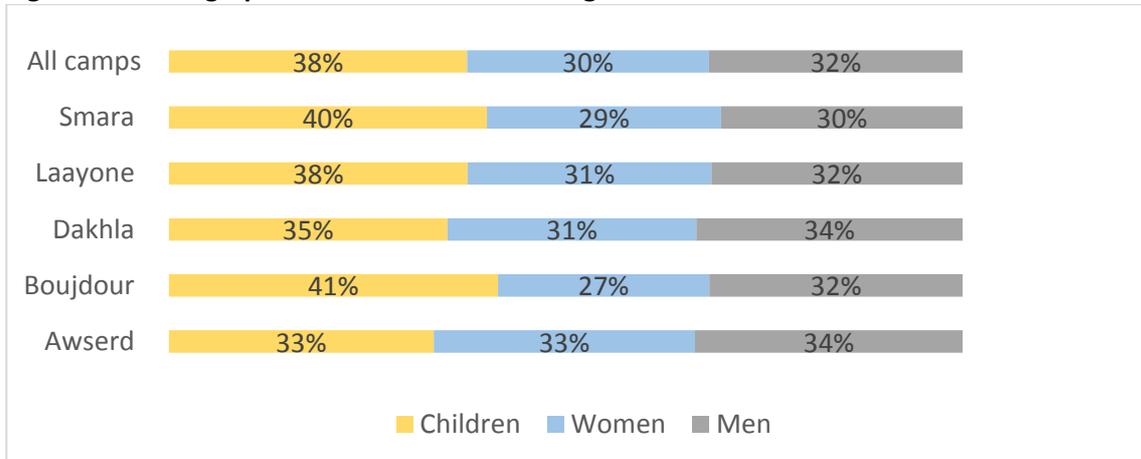[4] Out of camp populations were not included in the study.

[5] Secondary data is data that has been collected, collated and analyzed by other agencies, institution or bodies.

3. TOTAL IN CAMP POPULATION FIGURE & BREAKDOWN

Figure 1 - Total Sahrawi In-Camp Refugee Population in Tindouf Disaggregated by Camp

Figure 2 – Demographic Profile of Sahrawi Refugees in Tindouf

The new population figure stands at 173,600 Sahrawi refugees residing in camps in Tindouf, Algeria as of 31 December 2017. The population figure is a conservative number to be used strictly for humanitarian purposes in the camps.

The Sahrawi refugee population is almost **equally divided between males and females** with 49% female and 51% male. A little over one-third of the population (38%) are under 17.

Table 1 below provides a detailed breakdown of the in-camp Sahrawi refugee population disaggregated by sex, age group and camp. Figure 3 provides an illustration of the population disaggregated by sex and age group.
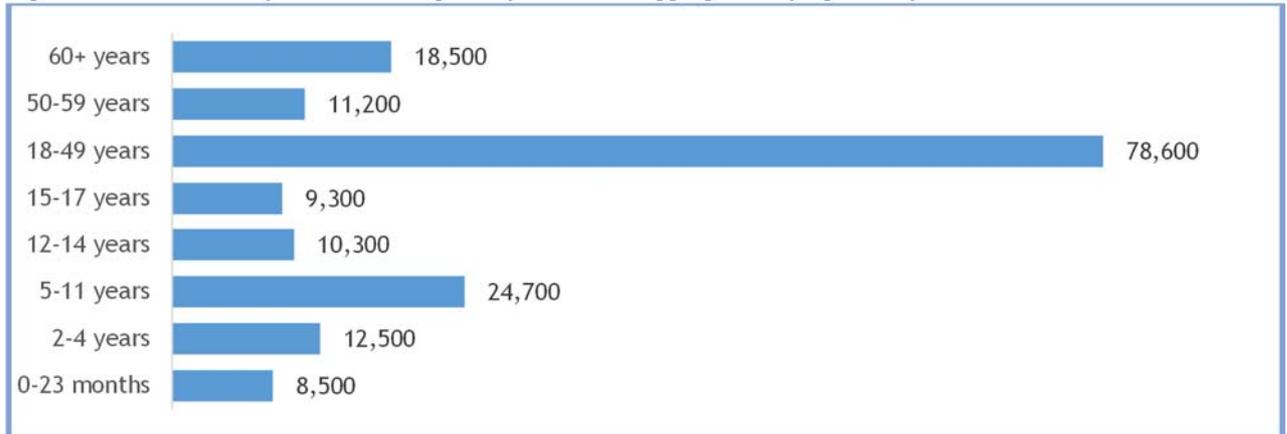
Table 1 – Total In-Camp Sahrawi Refugee Population Disaggregated by Sex, Age Group and Camp
(These figures have been rounded to the nearest 100)

Camp		0-23 months	2-4 years	5-11 years	12-14 years	15-17 years	18-49 years	50-59 years	60+ years	Total
Awserd	Male	1,000	1,100	2,500	900	700	9,100	1,200	2,000	**18,500**
	Female	900	1,200	2,400	900	700	8,900	1,200	1,900	**18,100**
Boujdour	Male	500	700	1,100	500	500	3,700	600	1,000	**8,600**
	Female	300	1,000	1,100	500	500	3,200	500	700	**7,800**
Dakhla	Male	300	1,100	1,100	500	500	4,500	700	1,300	**10,000**
	Female	200	1,200	1,000	400	500	4,300	600	1,200	**9,400**
Laayone	Male	1,500	1,600	3,900	1,600	1,400	11,500	1,600	2,800	**25,900**
	Female	1,200	1,300	3,600	1,600	1,400	11,300	1,700	2,500	**24,600**
Smara	Male	1,200	1,500	4,100	1,700	1,500	11,200	1,500	2,700	**25,400**
	Female	1,400	1,800	3,900	1,700	1,600	10,900	1,600	2,400	**25,300**
	Total	**8,500**	**12,500**	**24,700**	**10,300**	**9,300**	**78,600**	**11,200**	**18,500**	**173,600**

Figure 3 – Total In-Camp Sahrawi Refugee Population Disaggregated by Sex and Age Group
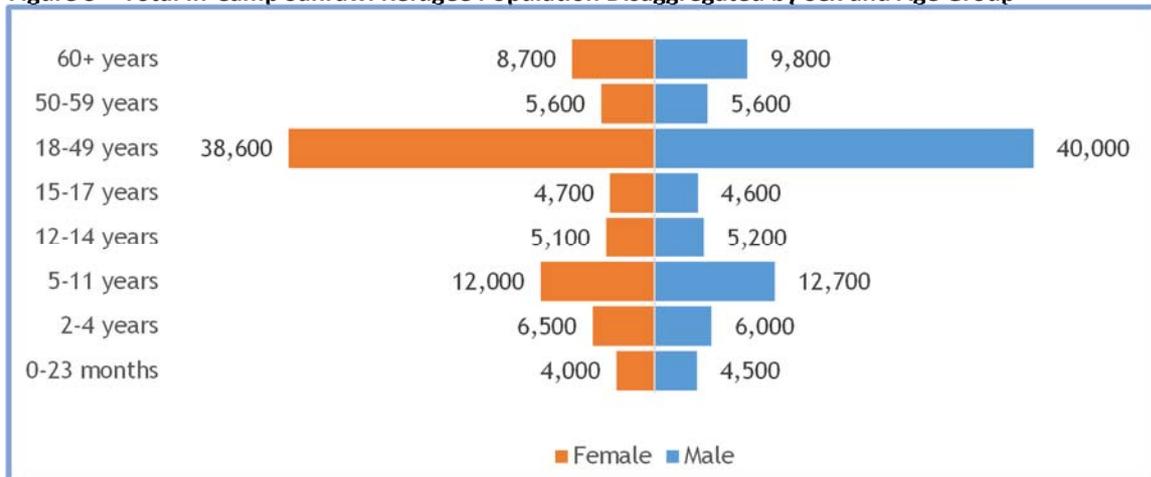
Figure 4 – Total In-Camp Sahrawi Refugee Population Disaggregated by Age Group

When compared to the population distribution of Algeria (host country and neighbouring country to Western Sahara) and Mauritania (another neighbouring country), the population distribution of the in-camp Sahrawi refugee population was found to be in line with that of the two countries according to the population figures issued in the 2017 report of the United Nations Population Division, Department of Economic and Social Affairs *(see Figure 5 below)[6]*.

The positioning of the refugee population in Tindouf between the age distribution in Mauritania and Algeria fits with what would be expected with the estimated fertility rates, which are also thought to fall between those in Mauritania and Algeria[7]. This comparison further reinforces the credibility of the population figure for in-camp Sahrawi Refugees.

Figure 5 – Comparison of Demographic Profile between In-Camp Sahrawi Refugees with Mauritanian and Algerian Nationals

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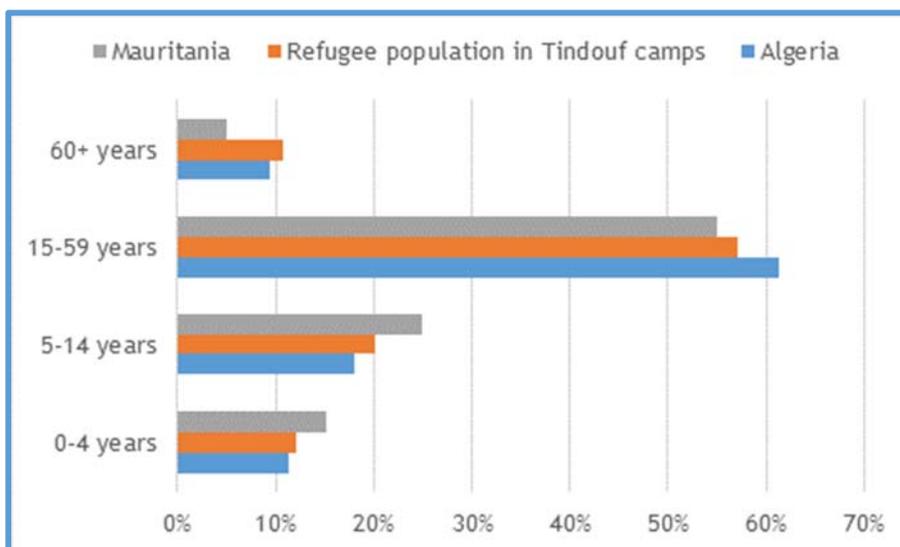
[6] United Nations Population Division, Department of Economic and Social Affairs, World Population Prospects: The 2017 Revision, File POP/15-1: Annual total population (both sexes combined), Medium fertility variant, 2015 - 2100, June 2017.

[7] United Nations DESA/Population Division https://esa.un.org/unpd/wpp/

4. METHODOLOGY

a) Strategy

The Tindouf camps are administered by Departments which have standard operating procedures (SOPs) for the management and maintenance of their databases. The data in these databases are collected through different processes which relate to each department: for example, data in the ID Centre represents each individual's ID application which is entered after a check to avoid duplication, enrollment of biometrics to avoid fraud and confirmation of family members based on the presentation of identity documentation[8]. In all the large data systems examined by the UNHCR Mission Team, individualized records were kept, where women are well-represented, allowing for a proper analysis of the data and disaggregation by birth year and sex as needed by humanitarian actors.   These databases were up-to-date, allowing the mission to use data as of 31 December 2017 and, in the case of education, from September 2017 (the beginning of the current school year). The available data was therefore found to be sufficient to produce more contemporary evidence-based figures than those currently being used.

One additional factor which reinforced the credibility of available data is the extensive community-based structures in place which ensure full access and participation of women and persons with specific needs in the public and private spheres. For example, of the 5 *camps*, 2 are headed by females; of the heads of *daira (*municipalities), 100% are female (116/116). These community-based structures are also used to raise awareness, especially with respect to vaccinations and refugee access to services through the widely dispatched community focal points in each camp. This type of structure suggests that figures tracking access to services, including vaccinations and education, are credible owing to high levels of awareness and use of these services.

The Mission Team triangulated available secondary data from the ID Centre, the Education Department and the Health Department, comparing datasets in order to select the best available data for each age cohort.

The quantitative data was corroborated by findings from the qualitative information derived from:
1. Observations and interviews at sites of primary data collection (i.e. ID Centre, health dispensary and schools).
2. Interviews with personnel from the Department of Health, Department of Education and ID Centre.
3. A community Focus Group Discussion (FGD) of women, men and youth.

b) Scope

The scope of the mission includes a sex and age cohort disaggregation for the total Sahrawi refugee population residing in camps in Tindouf as of 31 December 2017.

The Mission Team was not charged with calculating the number of households or the Sahrawi refugee population residing outside the camps in Tindouf. Additional data of students studying in Algeria and abroad was received in Excel format from the Education Department. Among this total, only students younger than 18 years old have been included in the total figures. The reason for including this group was

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[8] Examples of identity documents include old identification cards, birth certificates, parents' identity documents, *daira* attestations, etc.

that based on dependency and population movement patterns, students in Algeria and abroad come to and from the camp and have a family home based in the camp. The remainder figure of students over 18 years and studying abroad was excluded from the total population figures because there is a possibility that some members of this age group were included in the ID Centre data. However, because out-of-camp figures from the ID Centre were also excluded from the total count, it is possible that some of this group has not been counted in the final total. The Mission chose to err on the side of caution and avoided any possibility of double-counting in order to produce a conservative estimate.

c) Standards

The Mission Team consulted the PFWG at the beginning of the mission on the methodology to be used. The agreed upon data treatment methodology was very similar to that of the PFWG with the addition of the following elements:

1. The use of different cohorts, which were selected based on the need to provide humanitarian actors useful figures for infant feeding programmes and for programming for women of reproductive age. These age cohorts are also compliant with UNHCR's standard age cohorts: 0 – 4; 5 – 11; 12 – 17; 18 – 59; age 60+. *(See Figure 6 below).*

Figure 6– Age cohorts selected by the PFWG

Under 2 [0 – 23 months] — Infant Feeding
2 – 4
5 – 11
12 – 14
15 – 17 — Women of Reproductive Age
18 – 49
50 - 59
60+
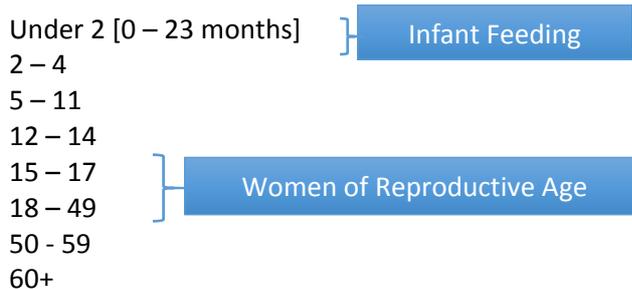
2. Different triangulation of age groups: the PFWG used Health Department records for ages 0 – 3, the Education Department data for 4 - 16, and the ID Centre for ages 17+ whereas the Mission Team used Health Department records for ages 0 – 4, Education Department data for 5 – 17, and the ID Centre for 18+.
3. The use of some small additional datasets from disability centres and vocational training.
4. A formal qualitative data gathering exercise, using a focus group discussion and interviews with key individuals (doctor, teachers, ID Centre personnel, Education Director for one of the camps). This informed the Mission's interpretation of the data and its reliability.

d) Data Selection

Three main data streams were selected to cover all population groups and included sex and age disaggregated data for all camps *(see Table 2 below):*
1. Active vaccination records from the Health Information System, Department of Health as of 31 December 2017. Only active vaccination records were listed in the database used by the Department of Health as the deaths had already been removed.
2. Education Enrolment data from the Department of Education as of September 2017; deaths and dropouts were extracted from Education Enrolment records.
3. ID card applications from the ID Centre as of 31 December 2017. Death records were extracted from the ID Centre database.
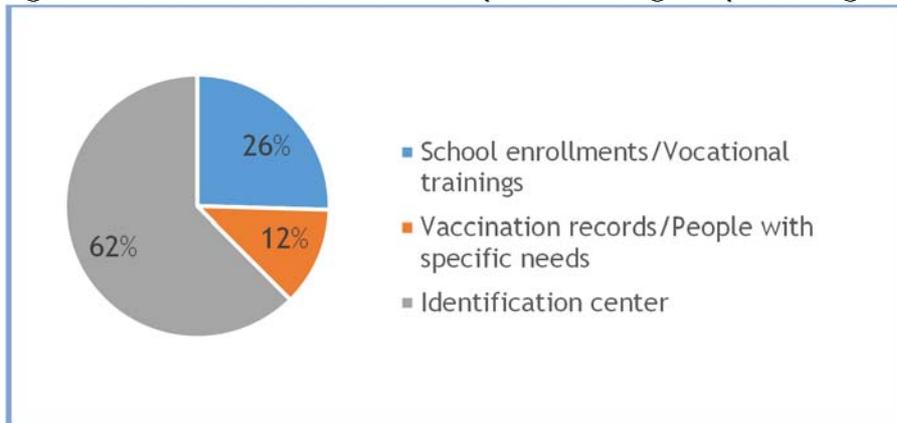
Additionally, the Mission Team ensured that *invisible* population groups such as children not enrolled in school due to disabilities or adolescent school dropouts attending training skill programmes, in lieu of the mainstream school system, were included. It is for this purpose that two additional sources of population data were added from the Disability Centre and the Basic and Technical Training Skills Programmes to the totals for those <18 years of age. Anonymized data was extracted from these data sources, which was then aggregated including sex, year of birth and camp.

While one single data stream cannot represent the whole population, when triangulated and combined, the figures derived from these data streams could be used as the basis for calculating the entire population *(see Table 2 and Figure 7 below).* The Mission Team was able to independently triangulate the data and arrive at the entire Sahrawi refugee population figure for those residing in camps in Tindouf as of 31 December 2017, disaggregated by sex and age for each of the five camps: Awserd, Boujdour, Dakhla, Laayoune, and Smara.

Table 2– Data Source Summary Table

	Vaccination Records	**Education Enrolment**	**ID Card Applications**
Age groups	0 – 5	3 – 17	17+
Date	31 Dec 2017	2017 / 2018 School year	31 Dec 2017
Owner	Department of Health	Department of Education	ID Centre
Systems	Health Information System (HIS)	MS Access	MS SQL Server and legacy Paradox system

Figure 7– Share of Data Sources for In-Camp Sahrawi Refugee Population Figures

26% ■ School enrollments/Vocational trainings
12% ■ Vaccination records/People with specific needs
62% ■ Identification center

e) Queries Used

The Mission Team designed and wrote out the query logic for extracting the data from the master databases mentioned above. These queries were recorded so that they can be repeated as needed in the future. The Mission Team was given full access to each of the databases and allowed to select all the datasets needed to run the queries (excluding personally identifiable information in line with UNHCR's *Policy on the Protection of Personal Data[9]*). The Mission Team was able to make independent decisions

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[9] UN High Commissioner for Refugees (UNHCR), Policy on the Protection of Personal Data of Persons of Concern to UNHCR, May 2015, available at: http://www.refworld.org/docid/55643c1d4.html

on how the data would be triangulated and what data would be included or excluded in the final calculations of the population estimation.

The main queries used were as follows *(for a detailed Data Audit Log refer to Annexes 2-4):*

1. Three main queries were used to extract the data in the ID Centre. The first query selected the total active refugee population (i.e. excluding deaths) who already have either the new Sahrawi ID (issued 2008 onwards which includes biometrics, representing 80% of the selected records) or the old Sahrawi ID card (pre-2008, with no biometrics, representing 20% of the selected records). The second query selected records of people reported as deceased, which were not used in the total population calculation, but gave an indication about the thoroughness of death reporting and the accuracy of the data. The third query selected a smaller number of records of people who have not yet applied for an ID; these people were pre-identified as eligible for ID and this database is used in the ID Centre for identity verification when people apply. Once a person applies, their record is deleted from this list and an active record is created in the main database. The death records were disaggregated by camp only, while the other two datasets were disaggregated by camp, sex and age groups (17 years, 18-49 years, 50-59 years, 60+ years). The age groups were calculated based on a reporting date of 31 December 2017. The count of 17 year olds from the ID Centre was excluded from the final calculation because education enrolment data was selected for this age during the triangulation process.

2. Three queries were applied to the Education Department database. The first included all active (i.e. not reported as deceased) students from 3 to 17 years of age, including the drop-out population. The second query selected records of students who have been reported as deceased; this figure was not used in the total calculation but was used to verify death reporting procedures. The third query was for dropouts alone, for further examination. The datasets were disaggregated by camp, sex and year of birth.

3. The query for the data in the Health Department database included all active refugee children in the Tindouf camps who have been vaccinated. The datasets were disaggregated in the same way as the education variables.

f) Triangulation of Data

The data for children (17 and below) was analyzed year-by-year to enable the best possible triangulation. This was especially important for this age group since the multiple sources of data for children provided some overlap between the years of 3-5 and 17 *(see Figures 8 and 9 below)*. The best available data for each year of childhood was then aggregated into the age cohorts.

Figure 8– Year of Birth Coverage for Children by Data Source
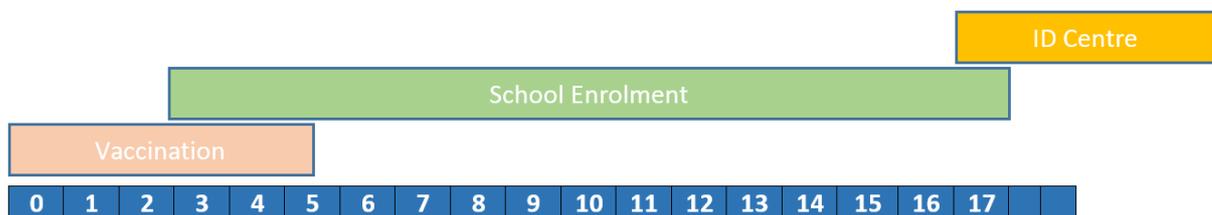
Figure 9– Data that Was Used in the Final Statistical Calculation for Children by Data Source

Vaccination records are incomplete for 5 year olds (only 4 months of data); Kindergarten (age 3 – 5) is not mandatory and enrolment is lower until primary school is mandatory at age 6

People often wait to be enrolled for ID cards. ID Centre figure for 17 year olds was less complete than Education data sources.

ID Centre

School Enrolment

Vaccination

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | | |

= Data excluded from final calculation following triangulation process

In the final calculation, the total count for 17 year olds was based on education enrolment data because it was found to be more complete than that from the ID Centre. Vaccination records were used to calculate totals for ages 0 – 4 years old. For children 5 years old, the vaccination record set was incomplete because the Health Information System was only up and running for 4 months of 2012, so these records were excluded from the final count and education enrolment data was used for this age instead. Education enrolment data for ages 3 – 4 was not used in the final calculation because school at this age is not mandatory and the education records were therefore incomplete.

g) Evaluation of Relative Confidence by Cohort

It should be noted that like any population figure calculation exercise, certain phenomena were identified which could potentially lead to under and over-counting. Those identified during this exercise reinforced the Mission Team's confidence in the data quality of some age groups (e.g. records from vaccinations and primary school) over others (records from post-primary school and adults). The most significant impacts were likely the under-inclusion of children who had dropped out of school prior to the 2017/18 school year and the over-inclusion of adults due to the possible under-reporting of deaths in the ID Centre database. The Mission Team evaluated the impact as follows:

1. Only the dropout records from the 2017 / 2018 school year were available, so school dropouts from years prior to 2017 for those still under 18 years old and not enrolled in the Basic or Technical Training Programmes have not been counted in the figures. The impact of this is potentially significant in undercounting school-aged children in the final estimation, as 1,200 dropouts were recorded for the 2017/18 school year alone. Reasons for dropping out vary, including a lack of motivation caused by limited employment opportunities and school overcrowding. The lack of secondary school facilities for children aged 16 – 17 years old in the camps (aside from one school of less than 300 students) also motivates dropping out, as the vast majority of students would have to attend secondary school out of camp and most are unable to do this.

2. Kindergarten is not mandatory, while primary school is required. Based on interviews with a School Director in Boujdour camp, the Department of Education and the community focus group discussion, the enrolment data for ages 6 - 10 for primary school is more reliable than for older ages where school is not required and where the effect of uncounted dropouts is compounded. However, age 5 may be under-represented in the statistics because not all children go to kindergarten.

3. Only 20% of records in the new ID Centre database were composed of old identification cards. These cards will eventually be replaced with the new ID card, which was introduced in 2008 and

includes biometrics. There is a renewal exercise later this year and next year for cards that will expire, but in the meantime, some of the people counted in these older records may have moved to another camp or are outside the camps altogether. However, persons with older ID cards are gradually renewing them in advance of the planned exercise, which will be an opportunity to replace even more of these old cards.

4. The Mission Team found that the count of 17-year-olds in the ID Centre database was low compared to the enrolment statistics coming from the education database   Because the Mission Team only had a large age cohort (18 – 49) from the ID Centre it was not possible to note the trends between different years of birth within this age cohort as it was possible to do with the 17 year olds.

5. It is possible that there are patterns for groups of people who do not apply for the ID. Because the reason for this pattern was undeterminable from the data available, no projection for 17 year olds or any of the other age groups was made. The ID Centre figures used in the final calculations of this report, therefore, are a conservative estimate, possibly undercounting the population. If a similar method is employed in future years for determining the population figures, the Mission Team recommends that smaller age cohorts (e.g. five year intervals) be pulled from the ID Centre database. With additional data, it may be possible to correct the underestimation with projections in the future.

6. Deaths recorded in the ID Centre are only those reported by the relevant Department. If deaths are unreported by the Department, they are not recorded in the ID Centre database. The process for recording out-of-hospital deaths is multi-step, and if any of those steps fails to occur, the death will not be recorded and deaths will be under-reported. The impact of the under-reporting of deaths may be particularly apparent in the oldest age groups.

Table 3- Reliability Level in Data Quality for Children's Ages

Best	▪ 0 – 4: Strong incentives to vaccinate (ration / access to health and other services) and a good awareness of the community on the benefits and responsibility of vaccination. Also, newborn babies are immediately provided with the vaccination card even if birth takes place outside clinic/hospital.
Medium	▪ 5: Enrolment in kindergarten is not mandatory. ▪ 6 – 10: Primary school is mandatory and a general awareness of the importance of education was noted, hence high enrolment rate. However, dropouts from years prior to 2017/18 school year are not counted. ▪ 11 – 14: Intermediate school is not mandatory. Dropouts prior to 2017/2018 school year are not counted, and the effect of this under-inclusion will be cumulative on this later age group compared to 6 – 10 year olds.
Least	▪ 15-17: Unrecorded dropouts may particularly decrease counts for these ages because of the lack of availability of school for 16 – 17 year olds and the cumulative effect of not counting dropouts from years prior to 2017/18 school year. The counts for these ages are lower than the other ages.

5. AVERAGE HOUSEHOLD SIZE

The Mission Team found that the basis for using an average household size of 5, which many sectors use for planning purposes, was questionable. The household size of 5 has arisen from a local practice of calculating the communal distribution of rations. In post-distribution monitoring conducted jointly by UNHCR and WFP, the answer to the question "*What is the size of the household?*" is 5. However, in the 2016 Nutrition Survey[10], when the question posed was "*How many people were living / sleeping in the household last night?*" the average of the answers varied by camp, from 5.6 people to 6.9 people, with an average for all camps of 6.4.

Table 4– Average Household Size by Camp from 2016 Nutrition Survey
(People living/sleeping in HH last night)

Awserd	6.9
Dakhla	6.6
Laayoune	5.6
Smara	6.6
Boujdour	6.4
Total	**6.4**

The Mission Team thus recommends that the average household size used by humanitarian actors be updated according to the Nutrition Survey results unless there is a specific reason for a particular programme to use the average household calculation of 5, such as providing assistance through the local communal rations distribution system.

6. RECOMMENDATIONS AND WAY FORWARD

a) Vulnerability Analysis

Following this population figure calculation UNHCR will coordinate a multi-agency vulnerability assessment with relevant humanitarian actors operating in Tindouf. The goal of this assessment will be to ensure that refugees in need receive appropriate assistance. It is anticipated that targeted population figures may differ depending on the sector. For example, while sectors such as health and WASH will be aimed at the entire population of 173,600, other sectors may target only those refugees who are most vulnerable. Vulnerability figures will be determined on the basis of a multi-agency assessment in the coming months but are expected to be consistent with the findings of the Joint Assessment Mission carried out by WFP and UNHCR in 2016**,** which estimated 75% of the Sahrawi in-camp population was vulnerable.[11] The vulnerability analysis will be multi-sectoral, allowing the identification of the root causes of problems and the prioritization of needs.

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[10] Sample size calculations were carried out using ENA for SMART 2011 software (version April 21st 2015), following UNHCR Standardized Expanded Nutrition Surveys Guidelines for Refugee Populations (SENS version 2). Calculations were based on prevalence data for Global Acute Malnutrition (GAM), stunting and anemia reported in the past two surveys of 2010 and 2016. It is a prevalence-based sampling.

[11] The UNHCR WFP Joint Assessment Mission (JAM) in 2016 concluded that 75% of the population was food insecure, which when applied with the total population figure developed by this mission would equal 130,200 food insecure refugees.

b) Population Figure Working Group

The PFWG should continue to meet regularly to:

a. Update population figures, at least every two years. The queries used during this mission can be repeated as needed;
b. Coordinate the use and communication of population figures;
c. Share data analysis products pertaining to population analysis;
d. Share and maintain institutional knowledge among rotating/new staff members; and
e. Cooperate on new projects pertaining to population data.

c) Systematically Refreshing Indicators

Because population figures are used as a basis for planning across all sectors, there must be a regular coordinated effort, among all humanitarian actors, to revise operational data for the Sahrawi refugee population residing in camps in Tindouf. Indicators that are rates, ratios and percentages based on previous population figures will all need revision with the new figures and any future reports needing to be refreshed with the new figures. Furthermore, because the new estimated figures will cause a "bump" up or down in indicators, it is recommended that metadata or a footnote accompanying any year-by-year analysis of indicators explain that an administrative change in the total population figure may be the cause of a significant change in an indicator, rather than a significant change in births, deaths and population movements.

New staff members should also be briefed on the evolution of the population figures, so that they can understand the historical documents and consider the administrative changes in the total population in their cross-year analyses.

7. ANNEXES

ANNEX 1: HISTORICAL BACKGROUND

The current planning figures of 125,000 for Food and Nutrition and 90,000 most vulnerable individuals used by UNHCR has remained the same since 2007 despite the population growth rate. Discrepancies between the figures used by humanitarian actors resulted in conflicting numbers (all of which have questionable provenance) being used simultaneously. The poor quality of population figures has had a negative impact on humanitarian indicator data across all sectors where population data is used to create rates, ratios and percentages. The Mission Team consolidated, to the extent possible, the figures (and their backgrounds) used over the years for the sake of proper record keeping as summarized in the table below.

While some historical figures in the table below were a result of a survey or the first stage of a pre-registration exercise, the methodology of other figures is somewhat unclear, limiting the assessment of their accuracy and usability. Furthermore, the figures that attempt to represent "vulnerable individuals" ought to have been based on needs assessments, socio-economic analysis, or other data collection methods that are suitable for vulnerability assessments.

Table 5 below should be viewed as a snapshot of the history of the population and planning figures only and was not used in any way as the basis for the population figure calculation during the mission.

Table 5– Summary of the Planning and Population Figures Previously Used[12]

ID	Date of Collection or Estimation	Figure	Method	Represents	Source	Basis	Limitations	Dates Used for Planning
1	Pre-1997	**165,000**	Estimation	Total Population Figure	Algerian Gov't	Initial estimate	Official Governmental figure	Government of Algeria Ministry of Health, Medicine du Monde; 2010 – present
2	June 1997 – Oct 2000	**129,863**	Pre-Registration	Partial Population Figure	UNHCR	Primary data collection; Pre-registration figure taken in anticipation of Voluntary Repatriation	Incomplete pre-registration so it is only a sample; Head of Household interviewed only;	
3	2000	**155,000**	Estimate	Planning Figure	UNHCR & WFP	Pre-registration data	Represents vulnerable individuals; estimation based on incomplete pre-registration	UNHCR & WFP; 2000
4	2004	**158,000**	Estimate	Planning Figure	UNHCR & WFP	Revision of previous estimate based on the WFP / UNHCR Joint Assessment Mission	Represents only vulnerable individuals	UNHCR & WFP; 2004
5	2005	**90,000**	Estimate	Planning Figure	ECHO OLAF	Remote sensing	Unknown methodology; claims to represent only most vulnerable individuals	Official UNHCR Population Figure; 2005 – present
6	2006	**125,000**	Estimate	Planning Figure	WFP	Emergency response estimate (flood)	Unknown methodology for operational planning figure for vulnerable and most vulnerable individuals	WFP & UNHCR for Food and nutrition; 2006
7	2007	**125,000**	Estimate	Planning Figure	WFP	Previous estimate and nutrition Survey	Revision of 90,000 estimation based on JAM to identify vulnerable and most vulnerable individuals	WFP for Food and Nutrition; 2007 – present

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[12] NGOs such as CISP, OXFAM use UN agency planning and population figures

ANNEX 2: ID Centre Data Audit Log

Created 22 January 2018 in Rabouni in the presence of personnel from the ID Centre, the Sahrawi Red Crescent, UNHCR and WFP	

Data Pre-Treatment Processing	
	Process applied
Fields Selected for Analysis:	Year of birth Sex Camp Old ID Cards / New ID Cards ID Card Expiry Date
Under 17 excluded:	Under 17 data is excluded from the total count data because 17 year olds were selected from Education enrolment data during the triangulation process. The database queries were made 22 Jan 2018 and the analysis cut off was 31 Dec 2017. New records processed in January before the synchronization script ran would be included here but excluded from totals because they belong to 2018 statistics.

Queries Used		
Data Result	**Query Applied**	**Readable Explanation**
Active Individuals with ID Issued	transform COUNT(*) as total1 SELECT DB1.CAMP, iif(birthyear=2000, '17 year',iif(birthyear between 1999 and 1968, '18-49 years',iif(birthyear between 1967 and 1958, '50-59 years' iif(birthyear<=1957, '60+years', 'younger than 17 years')))) as agegroup, COUNT(*) AS TOTAL FROM DB1 WHERE (((DB1.STATUS)<>'DEAD')) GROUP BY CAMP, iif(birthyear=2000, '17 years', iif (birthyear between 1999 and 1968, '18-49 years', iif(birthyear between 1967 and 1958, '50-59 years', iif(birthyear<=1957, '60+years', 'younger than 17 years')))) pivot sex	The query selects individuals who are living disaggregated by sex and age cohort and grouped by camp of residence. These individual records are stored in the consolidated active database which is updated with a weekly synchronization script. These individuals have been issued identification cards. Deaths have been excluded from these figures.

Individuals Not Applied	transform COUNT(*) AS total1 SELECT CAMP, iif(birthyear=2000, '17 year',iif(birthyear between 1999 and 1968, '18-49 years',iif(birthyear between 1967 and 1958, '50-59 years' iif(birthyear<=1957, '60+years', 'younger than 17 years')))) as agegroup, COUNT(*) AS TOTAL FROM DB2 GROUP BY CAMP, iif(birthyear=2000, '17 years', iif (birthyear between 1999 and 1968, '18-49 years', iif(birthyear between 1967 and 1958, '50-59 years', iif(a_o_nac<=1957, '60+years', 'younger than 17 years')))) pivot Sex***	The query selects individuals disaggregated by sex and age cohort and grouped by camp of residence from the database containing individuals identified between 1997 and 2010 who have not yet applied for ID. These individual records are stored in a separate database from the others. They were identified by the mobile team between 1997 and 2010 but have not yet applied for ID. Their names and bio data have been collected. Reports of death from the relevant Department result in the deletion of records from this database and therefore cannot be totaled separately.
Deaths	TRANSFORM COUNT(*) as total Select CAMP FROM DB1 WHERE STATUS="DEAD" GROUP BY CAMP pivot sex	This query counts persons who are recorded as dead.
Exclude Under 17	SELECT DB1.birthyear FROM DB1 where birthyear>2000	This query counts persons under 17 on the date of 31 December 2017. This age group was isolated for the purposes of triangulation with Education enrolment data.

ANNEX 3: Education Enrolment Data Audit Log

Principal Data Source:	
The refugee Education department maintains all education enrolment records in a central database which is developed using Microsoft Access. The database personnel explained to the Mission Team the database schema to be able to write the queries. The database contains only a single table which captures bio-data information for each student. The database does not only store active students currently in school but also drop-outs and deceased students during the school year.	

Data points extracted:	
Three datasets were extracted from the database. The first dataset included all students who are active, dropped-out and deceased; the second dataset was for drop-out students only; the third dataset included only the students who are recorded as deceased. All three datasets were aggregated by five data variables, 1) camp, 2) Year of birth, 3) Male, 4) Female and 5) Total.	

Data Calculations:	
Total enrollees (active, drop-out, dead) - total dead = total number of enrollees in 2017 / 2018 school year. Note on dropouts: because the Mission only received one year of dropout data for the 2017 – 18 school year, school-aged children who dropped out in previous years have not been counted in the total. For this reason, the total estimate is a conservative one.	

Data queries:

SQL queries	Explanation
| ```
TRANSFORM Count(*) AS totalbysex
SELECT PRINCIPAL.الولاية, PRINCIPAL.[سنة الميلاد], Count(*) AS tot
FROM PRINCIPAL
GROUP BY PRINCIPAL.الولاية, PRINCIPAL.[سنة الميلاد]
pIVOT PRINCIPAL.الجنس;
``` | This query captures the entire student population, including dropouts and deaths, in the education database disaggregated by camp, sex and year of birth. |
| ```
TRANSFORM Count(*) AS totalbysex
SELECT PRINCIPAL.الولاية, PRINCIPAL.[سنة الميلاد], Count(*) AS tot
FROM PRINCIPAL
where الحالة  in ('منقطع')
GROUP BY PRINCIPAL.الولاية, PRINCIPAL.[سنة الميلاد]
pIVOT PRINCIPAL.الجنس;
``` | This query selected the dropout student population by camp, sex and year of birth. |

```
TRANSFORM Count(*) AS totalbysex
SELECT PRINCIPAL.الولاية, PRINCIPAL.[سنة الميلاد], Count(*) AS tota
FROM PRINCIPAL
where الحالة    in ('وفاة')
GROUP BY PRINCIPAL.الولاية, PRINCIPAL.[سنة الميلاد]
pIVOT PRINCIPAL.الجنس;
```

The students who are deceased during the year are extracted using this query. The data is disaggregated by camp, sex and year of birth.

Additional data for students out of camps

Some additional data for students who are studying in Algeria and abroad was received in Excel format from the Education Department. The list included the data disaggregated by camp, year of birth, sex and education level. The mission included only those out-of-camp students who are less than 18 years old for the reasons stated above.

Data on Disabled Children

A spreadsheet of enrolment data for disabled children was received from the Department of Social Services. The data was disaggregated by sex and year of birth, and grouped by camp. Participants in the Disabled Centre's programmes are not enrolled in mainstream school and have been excluded from school enrolment statistics. The Mission thus added these disabled children to the totals to ensure proper representation in the population figures.

Enrolment in Basic and Technical Trainings

Basic and technical vocational trainings are conducted by the Social Affairs Department in Rabouni. These training participants are not enrolled in mainstream school and will not be counted in school enrolment statistics. Training participants are older children, and the estimate has been distributed equally across 15, 16 and 17 years of age because these are the target ages for the school dropout referral programme.

ANNEX 4: Vaccination Record Audit Log

Data source:
The Sahrawi Health Department maintains all vaccination records in a central database in Microsoft Excel, which is part of the Health Information System (HIS). The database is managed by dedicated technical staff members who helped the Mission Team access all vaccination records for children 5 years old and under. The database stores bio-data information for all children 5 years and under who have been vaccinated since the inception of the HIS (Sept 2012). The records don't include those who are deceased, which were already removed.

Data pre-processing:
Before transferring the data to Microsoft Access, the data was anonymized by removing personal identifiers. Only camp, year of birth and sex columns were moved to Microsoft Access.

Data points extracted:
One dataset was extracted from the database. The dataset comprises aggregated five data variables, 1) camp, 2) Year of birth, 3) Male, 4) Female and 5) Total.

Data queries:

SQL queries	Explanation
transform count(*) as Totalbysex SELECT test.Camp, test.[year of birth], count(*) as Total FROM test group by test.Camp, test.[year of birth] pivot sex	The query extract number of male, female and total children grouping by camp and year of birth.

Calculation:
For children 5 years old, the record set was incomplete because the Health Information System was only up and running for 4 months of 2012, so these records were excluded from the final count. Children born outside of camps were also excluded from the final count.