



Research note:

'The expansion of plantation infrastructure in occupied Western Sahara, 2003-2016'

Brussels, 18 July 2016

www.wsrw.org

In this research note, Western Sahara Resource Watch describes the development of Moroccan/French plantation infrastructure in the region around Dakhla, occupied Western Sahara. The study is done by comparing three sets of images available on Google Earth: satellite images from 2003-2005, from 2010-2012 and from 2016.

The agriculture industry in the territory is highly controversial. No state in the world recognises the Moroccan claims to Western Sahara. Yet, as the EU and Morocco started negotiating a trade deal for agriculture and fisheries products in 2006, the issue of Morocco's illegal presence in Western Sahara was not addressed.

Thus, the deal which the EU and Morocco concluded in 2012 failed to address the issue of the geographical implementation of the agreement. Morocco has held the non-self-governing territory of Western Sahara under occupation for four decades, and treats the territory as if it were a part of Morocco. No efforts were made during the negotiations or after the implementation of the agreement, to seek the consent of representatives of the people of the territory. Both fisheries and agriculture products today reach the EU from Western Sahara under the agreement.

The EU presently applies the agreement with Morocco to goods coming from a territory which is outside of the internationally recognised borders of Morocco. On 10 December 2015, the Court of Justice of the EU ordered set aside the agreement insofar as it allowed products from Western Sahara into the EU on a free trade basis.

This research note contains two main findings:

- *There is a continued growth of the plantation acreage.* WSRW found a large increase in infrastructure from 2003-2005 (150 ha) to the years 2010-2012 (841 ha). Since then, the acreage has increased even more (963 ha in 2016).
- *There is a remarkable timing of the first boom in infrastructure.* The large increase of infrastructure at the time when the trade agreement was under negotiation, suggests that the Moroccan government, and the Moroccan/French companies involved had expected the trade agreement to go through. After all, the EU is the main market for the agriculture products grown in Dakhla. From the first to the second image set, the number of plantations increased from 4 to 12.

In 2012, as the EU-Morocco trade agreement was up for vote in the European Parliament, WSRW published the report '[Label and Liability - How the EU turns a blind eye to falsely stamped agricultural products made by Morocco in occupied Western Sahara](#)'. The report referred to the most recent available official data from the Moroccan government at the time, indicating that by mid-2009, 646 hectares had been equipped for agricultural activity in Western Sahara.

The analysis in this research note, of the development of the physical infrastructure as seen from Google Earth from the photo set of 2003-2005 onwards, confirms that 646 hectares in 2009 was likely correct.

More worrisome, the Moroccan government, both then and today, aims to increase agricultural activity in Dakhla in the years to come. WSRW wrote in 2012 that the Moroccan government foresaw the expansion of areas to reach 2,000 hectares by 2020. This would, according to the initial plans, increase the greenhouse production from 36,000 tons in 2008 to 160,000 tons in 2020. That



Nagjir is the biggest plantation as seen from the satellite images shot in February 2016. This photo was taken on the ground some months later. The products are exported for the EU market. Trade from the territory continues despite of a ruling from the Court of Justice of the EU, 10 December 2015.

increased production will be destined exclusively for export. The number of people working in the region’s agricultural sector was expected to triple by 2020, the majority being settlers who have moved in to the territory. The entire production is based on use of non-renewable water supplies, located deep in the Saharawi soil.

Even though our satellite image estimations suggest that 963 hectares of infrastructure as of 5 February 2016 only represent half of the Moroccan goal for 2020, this could rapidly change: Saharawis on the ground report that large expansions are as of July 2016 being prepared in some of the plantations, and that concessions for increasing the acreage have been granted from the Moroccan authorities to several of the plantations mentioned in this report. The plantations may also have been higher than 963 hectares in February 2016, as our visual estimations are done conservatively, as explained in the methodology.

This research note was made to give an update on the scope of the controversial agricultural trade, and does not go into detail on the controversies itself, the owners behind it nor about the *Polisario v. European Council* court case. For that, please consult our website www.wsrw.org, and particularly the WSRW report ‘Label and Liability’ mentioned above.

Contents

The plantations..... 4

Methodology 5

STÉ NGJIR (N 23°58'47.51" W 15°39'29.40") 6

STÉ TAWARTA (N 23°48'49.11" W 15°53'24.63") 7

PÉRIMÈTRE TINGUIR (N 23°37'30.48" W 15°50'26.07") 8

PÉRIMÈTRE DHAR LHOULI (N 23° 59'38.4" W 15° 30'18.72")..... 9

STÉ MARAÎCHAGE DU SAHARA 1 (N 23°40'21.87" W 15°44'53.99") 10

STÉ MARAÎCHAGE DU SAHARA 2 (N 23° 38'54.2" W 15° 45'29.8") 11

STÉ MARAÎCHAGE DU SAHARA 3 (N 23°36'14.07" W 15°47'28.12 ") 12

STÉ MIJK 1 (N 23°41'59.59" W 15°42'12.56") 13

PÉRIMÈTRE TAWARTA (N 23° 46'14.88" W 15° 55'22.08")..... 14

STÉ ADRAR (23°45'19.81"N 15°39'10.50"W)..... 15

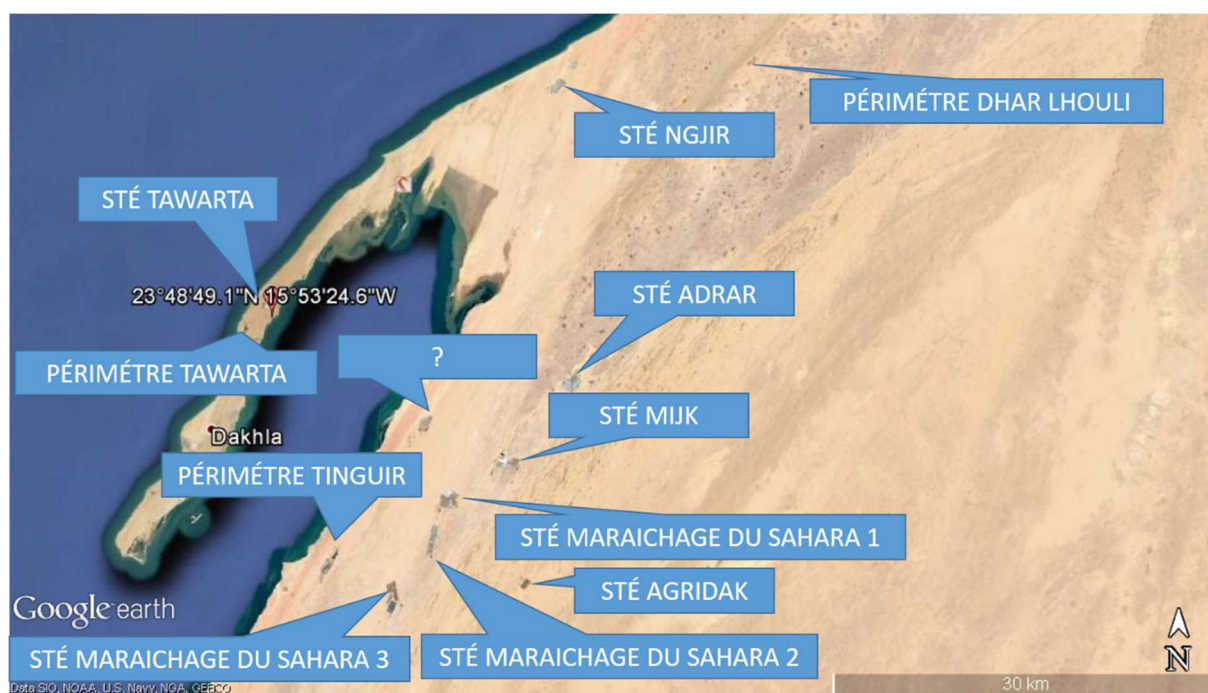
STÉ AGRIDAK (N 23°36'48.37" W 15°41'17.41") 16

? (23°43'13.26" N 15°46'31.09"W)..... 17

The plantations

Estimated size (in hectares):

	2003/2004/2005	2010/2011/2012	2016
STÉ NGJIR	0	89	144
STÉ TAWARTA	64	68	68
PÉRIMÈTRE TINGUIR	55	62	62
PÉRIMÈTRE DHAR LHOULI	31	0	0
STÉ MARAÎCHAGE DU SAHARA 1	0	143	143
STÉ MARAÎCHAGE DU SAHARA 2	0	90	90
STÉ MARAÎCHAGE DU SAHARA 3	0	85	135
STÉ MIJK 1	0	99	99
PÉRIMÈTRE TAWARTA	0	0	0
STÉ ADRAR	0	89	89
STÉ AGRIDAK	0	39	39
?	0	77	94
Total	150	841	963



The plantations are also marked and available via [this downloadable Google Earth file](#) (requires you have Google Earth installed, and that you zoom in to Dakhla peninsula manually).

Methodology

This study is meant to be an independent and approximate supplement to figures that Morocco and the private companies involved have presented.

The calculation of the plantation areas is, in general, made solely on assessment of satellite photos. Some structures have been difficult to assess visually. When available, information from the ground in Western Sahara has been used to understand the nature of the structures. This has been possible only in some of the cases.

Methodological challenges of the report:

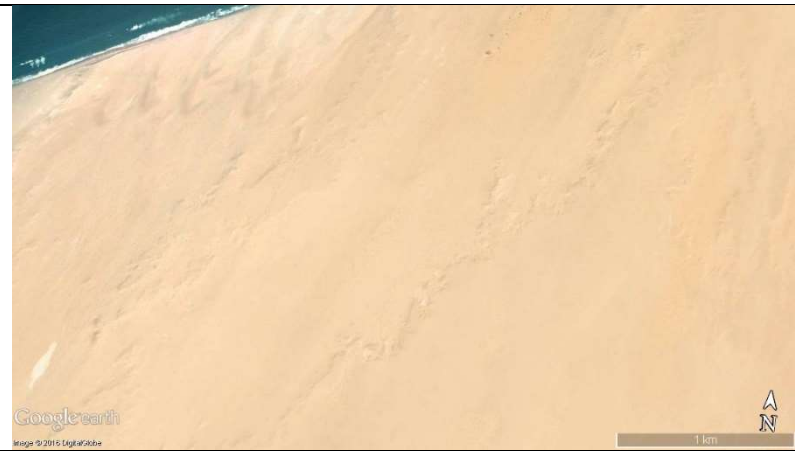


- The agriculture takes place under plastic sheets. Every few years, the sheets are taken down and the soil is ploughed and replanted. For this reason, the farm land can be fully intact and operational, while there was no greenhouse structure or farming at the time the satellite image was shot. A qualified guess is generally made in such cases.
- Plantations which are possibly no longer in operation, but where physical infrastructure is still intact, are included. One of the plantations mentioned might be of such a nature – Agridak - where there are unconfirmed rumours that the activities closed around three years ago. This particular plantation is included in the figures.
- Any development which has happened after 5 February 2016, when the last photo set was shot, is not taken into account. This means that carrying out *in situ* checks today does not necessarily give information of how it looked at the time the photo was shot.

Names of the plantations may on some occasions not be accurate.

The largest inaccuracies in estimating the size are related to the plantation referred to in this report as Périmètre Dhar Lhouli, at location N 23° 59'38.4" W 15° 30'18.72". The name might also be incorrectly noted for this plantation. The size of this particular plantation is estimated to 31 and 37 hectares in 2003 and 2011/2016 respectively, but from what we understand, this plantation could be to a large extent inoperative, perhaps except for a few months of the year. For the sake of presenting conservative figures, the acreage is presented as 0 hectares for the years 2011 and 2016.

Another uncertain area which WSRW has not been able to fully confirm at the time of publishing this report, is the Périmètre Tawarta acreage at N 23° 46'14.88" W 15° 55'22.08", where agriculture takes place outdoors, not in greenhouses, and probably not even for exports. There are so many uncertainties with the structure to the east of the indicated plantation, that we have chosen to omit it from the study.

STÉ NGJIR (N 23°58'47.51" W 15°39'29.40")

	<p>Picture taken: 02.04.2004</p>
	<p>Picture taken: 14.06.2012 Estimated size: 89 ha</p>
	<p>Picture taken: 05.02.2016 Estimated size: 89 ha+ 55 ha = 144 ha</p>

STÉ TAWARTA (N 23°48'49.11" W 15°53'24.63")



Picture taken: 21.06.2005
Estimated size: 64 ha



Picture taken: 24.11.2010
Estimated size: 68 ha



Picture taken: 05.02.2016
Estimated size: 68 ha

PÉRIMÈTRE TINGUIR (N 23°37'30.48" W 15°50'26.07")



Picture taken: 21.06.2005
Estimated size: 55 ha






Picture taken: 16.12.2010
Estimated size: 62 ha



Picture taken: 05.02.2016
Estimated size: 62 ha

PÉRIMÈTRE DHAR LHOULI (N 23° 59'38.4" W 15° 30'18.72")

	<p>Picture taken: 06.05.2003 Estimated size: 31 ha</p>
	<p>Picture taken: 18.06.2011 Estimated size: 37 ha Applied in the current report (for the sake of giving conservative figures): 0 ha</p>
	<p>Picture taken: 05.02.2016 Estimated size: 37 ha Applied in the current report (for the sake of giving conservative figures): 0 ha</p>



STÉ MARAÎCHAGE DU SAHARA 1 (N 23°40'21.87" W 15°44'53.99")

	<p>Picture taken: 26.01.2004</p>
	<p>Picture taken: 16.12.2010 Estimated size: 143 ha</p>
	<p>Picture taken: 05.02.2016 Estimated size: 143 ha</p>

STÉ MARAÎCHAGE DU SAHARA 2 (N 23° 38'54.2" W 15° 45'29.8")

	<p>Picture taken: 26.01.2004</p>
	<p>Picture taken: 16.12.2010 Estimated size: 90 ha</p>
	<p>Picture taken: 05.02.2016 Estimated size: 90 ha</p>

STÉ MARAÎCHAGE DU SAHARA 3 (N 23°36'14.07" W 15°47'28.12 ")

	<p>Picture taken: 15.01.2005</p>
	<p>Picture taken: 24.12.2010 Estimated size: 85 ha</p>
	<p>Picture taken: 05.02.2016 Estimated size: 85 ha + 50 ha = 135 ha</p>

STÉ MIJK 1 (N 23°41'59.59" W 15°42'12.56")



Picture taken: 26.01.2004



Picture taken: 16.12.2010
Estimated size: 99 ha



Picture taken: 05.02.2016
Estimated size: 99 ha

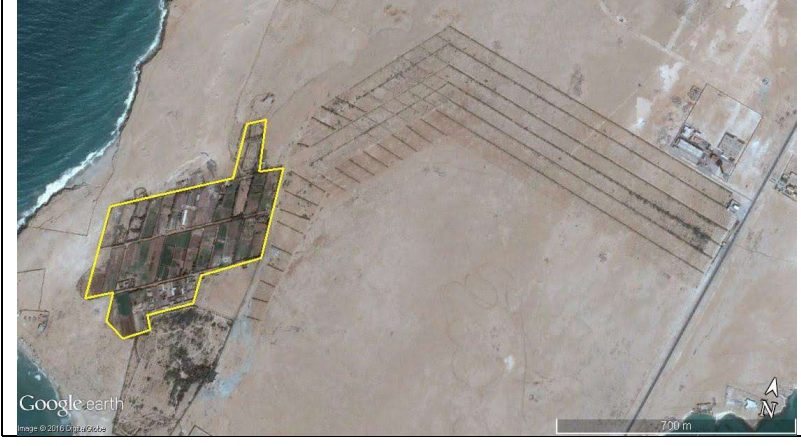
PÉRIMÈTRE TAWARTA (N 23° 46'14.88" W 15° 55'22.08")



Picture taken: 21.06.2005
Estimated size: 0 ha



Picture taken: 24.11.2010
Estimated size: 0 ha



Picture taken: 05.02.2016
Estimated size: 0 ha

STÉ ADRAR (23°45'19.81"N 15°39'10.50"W)

	<p>Picture taken: 02.04.2004</p>
	<p>Picture taken: 16.12.2010 Estimated size: 89 ha</p>
	<p>Picture taken: 05.02.2016 Estimated size: 89 ha</p>

STÉ AGRIDAK (N 23°36'48.37" W 15°41'17.41")



Picture taken: 26.01.2004

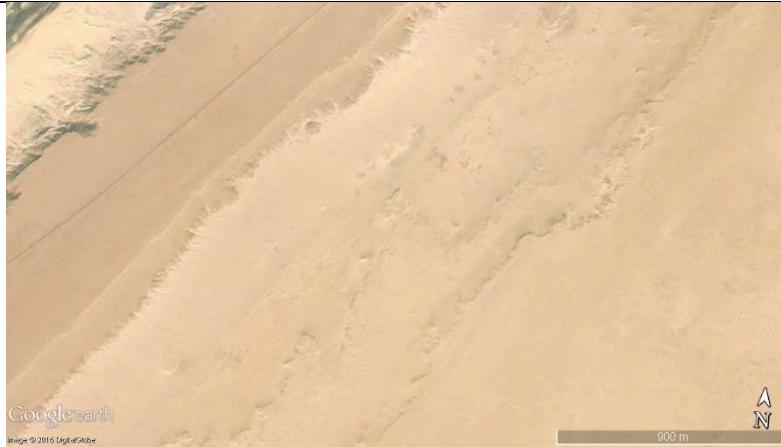


Picture taken: 24.12.2010
Estimated size 39 ha



Picture taken: 05.02.2016
Estimated size 39 ha

? (23°43'13.26" N 15°46'31.09"W)



Picture taken:
21.06.2005



Picture taken:
16.12.2010
Estimated size 77 ha



Picture taken:
05.02.2016
Estimated size 94 ha