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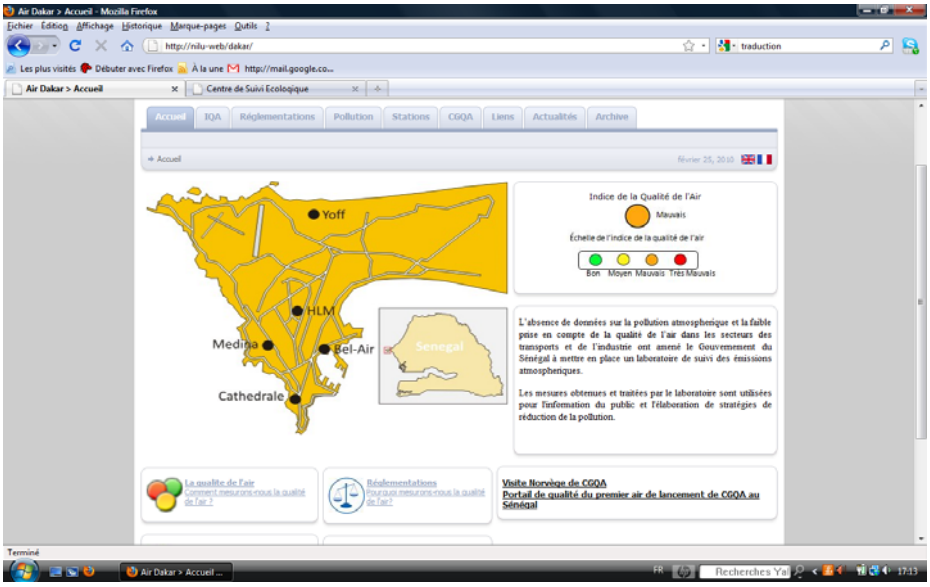
Projet:	**ASSISTANCE TECHNIQUE A LA MISE EN PLACE DU LABORATOIRE CENTRAL ET DES STATIONS DE MESURES POUR L'AMELIORATION DE LA QUALITE DE L'AIR EN MILIEU URBAIN DE DAKAR**
Contrat:	**No 003/C/FND/05**

Air Quality Web portal in Dakar

Operational and editorial procedures

Aminata Mbow Diokhane, Vo Thanh Dam and Cristina Guerreiro



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Summary

The current report presents the operational and editorial procedures for the Air Quality Web portal in Dakar, operated by the Centre de Gestion de la Qualité de l'Air de Dakar (CGQA). The procedure to set up the Air Quality Index (AQI) in AirQUIS is described and illustrated in Annexe A. In Annexe B a short description of how AirQUIS calculates the AQI for the different measurement station types is given, as well as the procedure CGQA has to follow to determine the AQI for the whole Dakar city to be presented daily on the Air Quality Web portal.

The operational and editorial procedures for the Air Quality Web portal in Dakar have been described by Aminata Diokhane, under supervision of NILU and validated by NILU.

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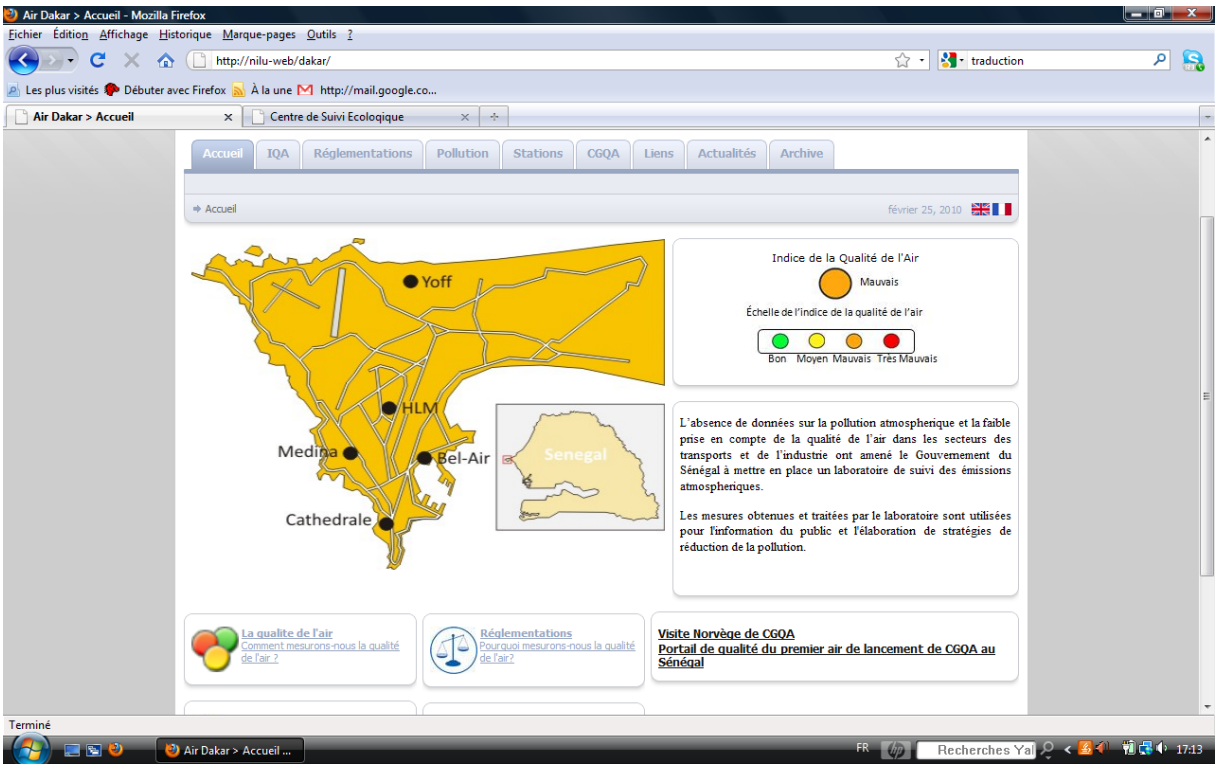
1. Introduction

The Norwegian Institute for Air Research (NILU) was asked by the Conseil Exécutif des Transports Urbains de Dakar (CETUD) for support in establishing a Central Laboratory with an Air Quality Management System for Dakar. This project is part of the component entitled as “Amelioration de la qualité de l’air en milieu urbain” (QADAK) of the “Programme d’Amélioration de la Mobilité Urbaine” (PAMU) operated by the Conseil Exécutif des Transports Urbains de Dakar (CETUD).

The current report presents the operational and editorial procedures for the Air Quality Web portal in Dakar, corresponding to the project deliverable 10d. The procedure to set up the Air Quality Index (AQI) in AirQUIS is given in Annexe A. In Annexe B a short description of how AirQUIS calculates the AQI for the different measurement station types is given, as well as the procedure CGQA has to follow to determine the AQI for the whole Dakar city to be presented daily on the Air Quality Web portal.

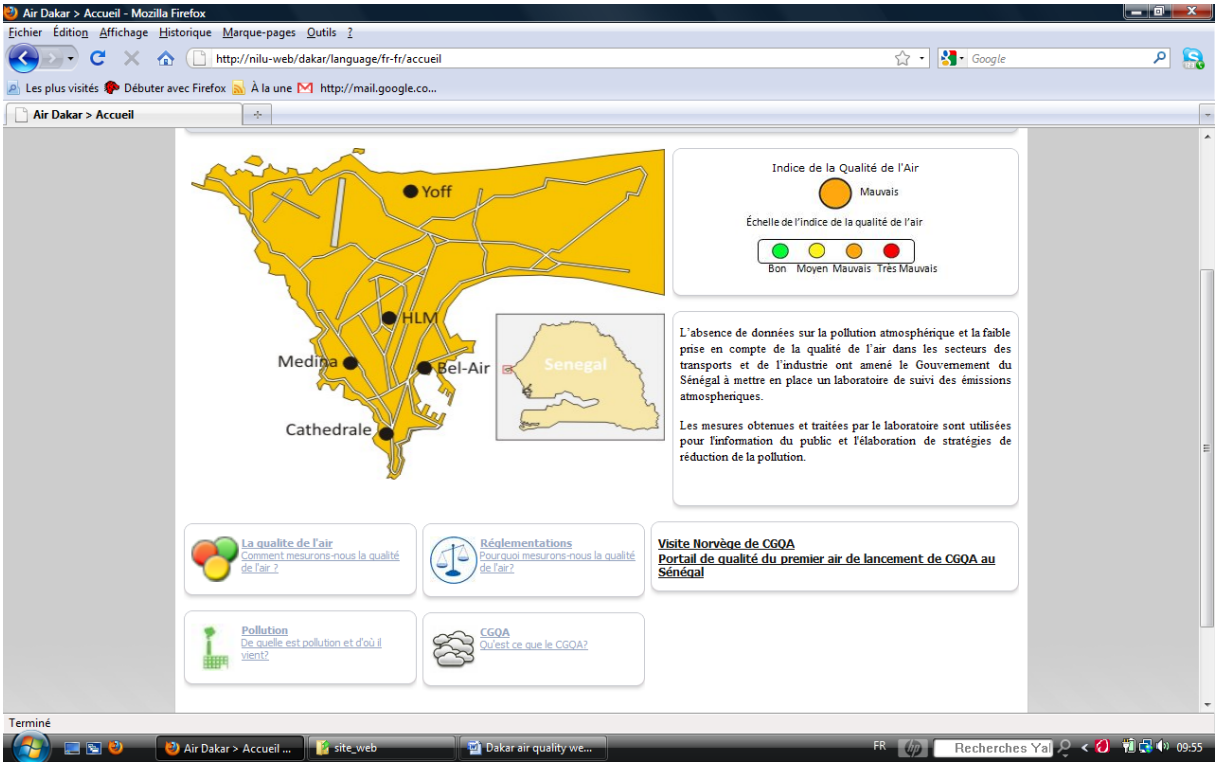
2. Web portal home page

The temporary URL name for the web portal in Nilu intranet is http://nilu-web/dakar.
It gives access to the home page below for any user:



This page is split into the following modules:

- a Home (“Accueil”) page which contains Dakar map with representation of all measurements stations and the small Senegal map
- a module on the right side which displays the Air quality index and the AQI legend. This should be displayed on each page.
- a module which introduces the problem of air quality in Senegal, below the AQI module in the right side
- Five modules on the bottom that directly give access to the AQI (“IQA”), Regulations (“Réglementations”), Pollution, CGQA pages and News.



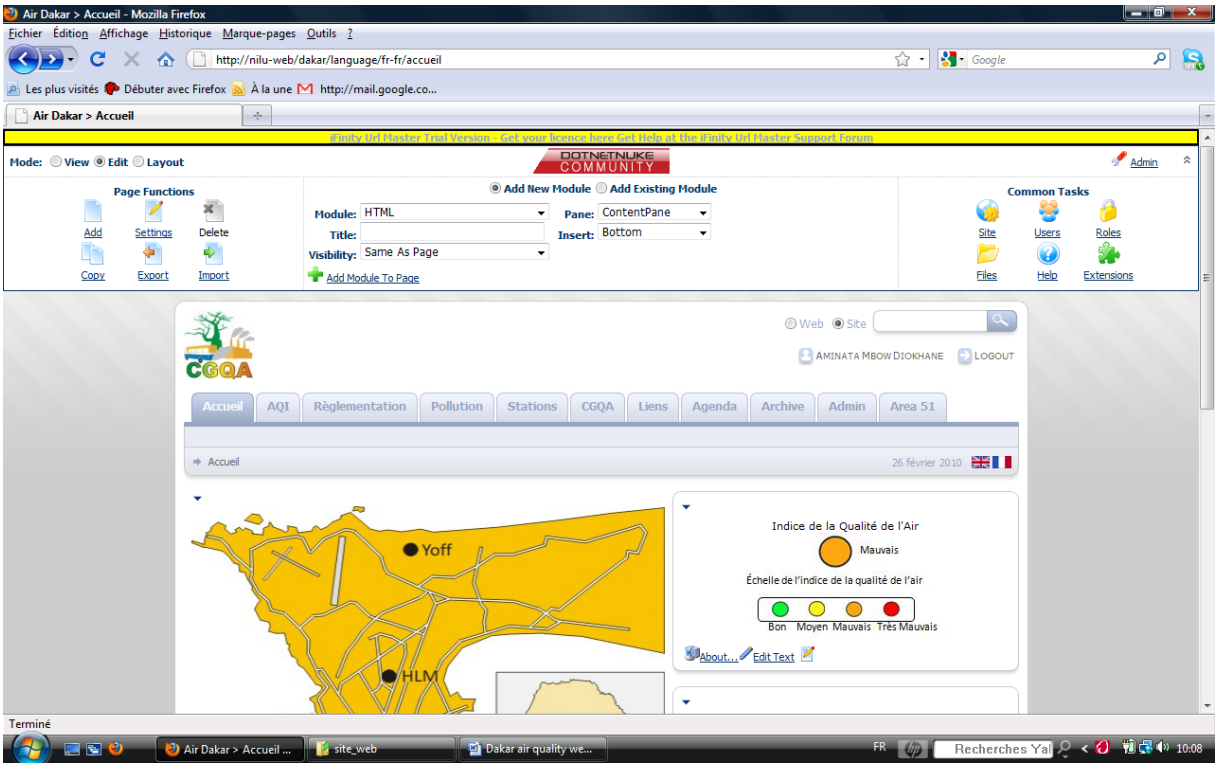
Pages can also be opened via the following tabs (below the “Login” icon):

- AQI (“IQA”) for information about the Air Quality Index,
- Regulations (“Réglementations”) for information about regulations on Air Quality in Senegal,
- Pollution which explains the general concept of pollution,
- Stations which contains information about the 5 measurement stations in Dakar,
- CGQA which is a brief presentation of CGQA,
- Links (“Liens”) which gives links to other organizations web site,
- Events (“Agenda”) which gives special events and coming events for CGQA,
- Archive which gives a chronological archives of events.

3. Editing pages

To create new modules or edit pages and add content to the web portal, user must have a login name and password. At present, 2 users accounts (“aminata” and “mbaye”) have been created by the administrator for editing and adding content.

When connected under one of these names (see image below), pages content and settings can be edited and modified.



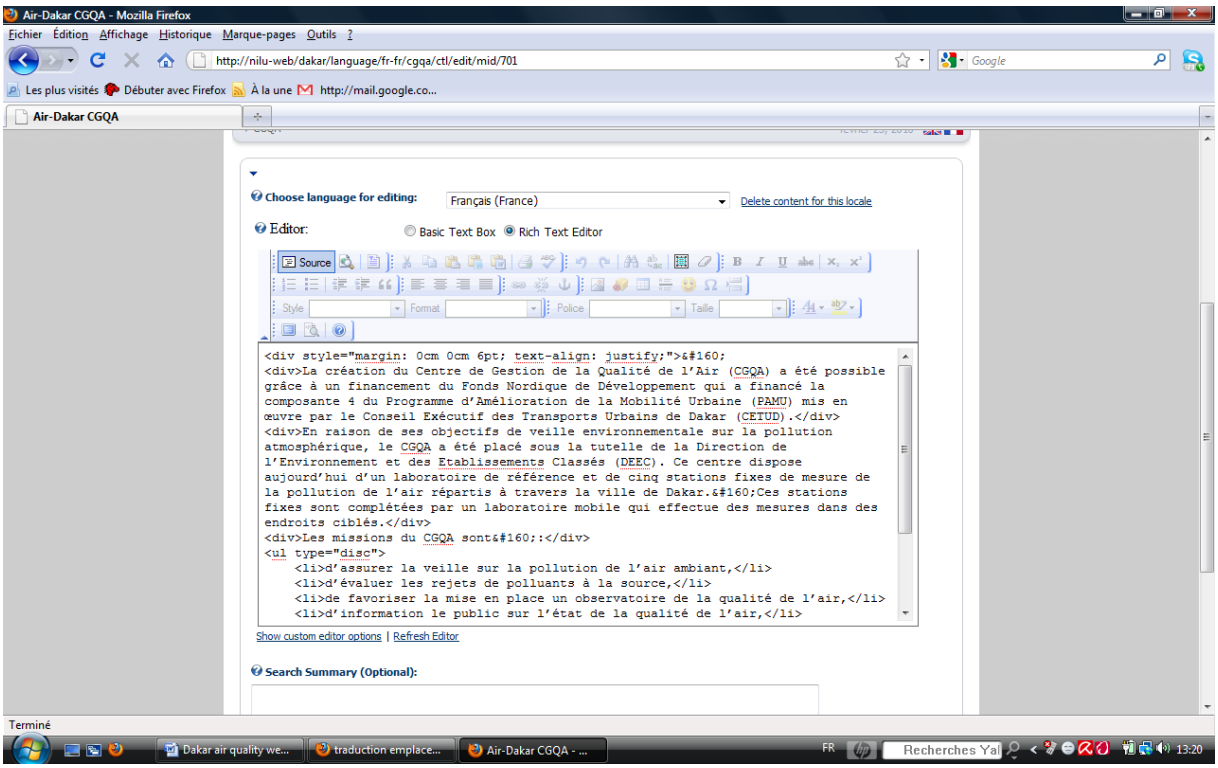
Additional options are added to the portal and in the upper left side a “View”, “Edit” and “Layout” buttons are available.

Below each module some clickable links (bottom left side) and a contextual menu (upper left side) enable to edit text, import or export module content, change settings, move the module to another location, etc…

Contents can be copied from word and pasted. Some menus are available for formatting text.

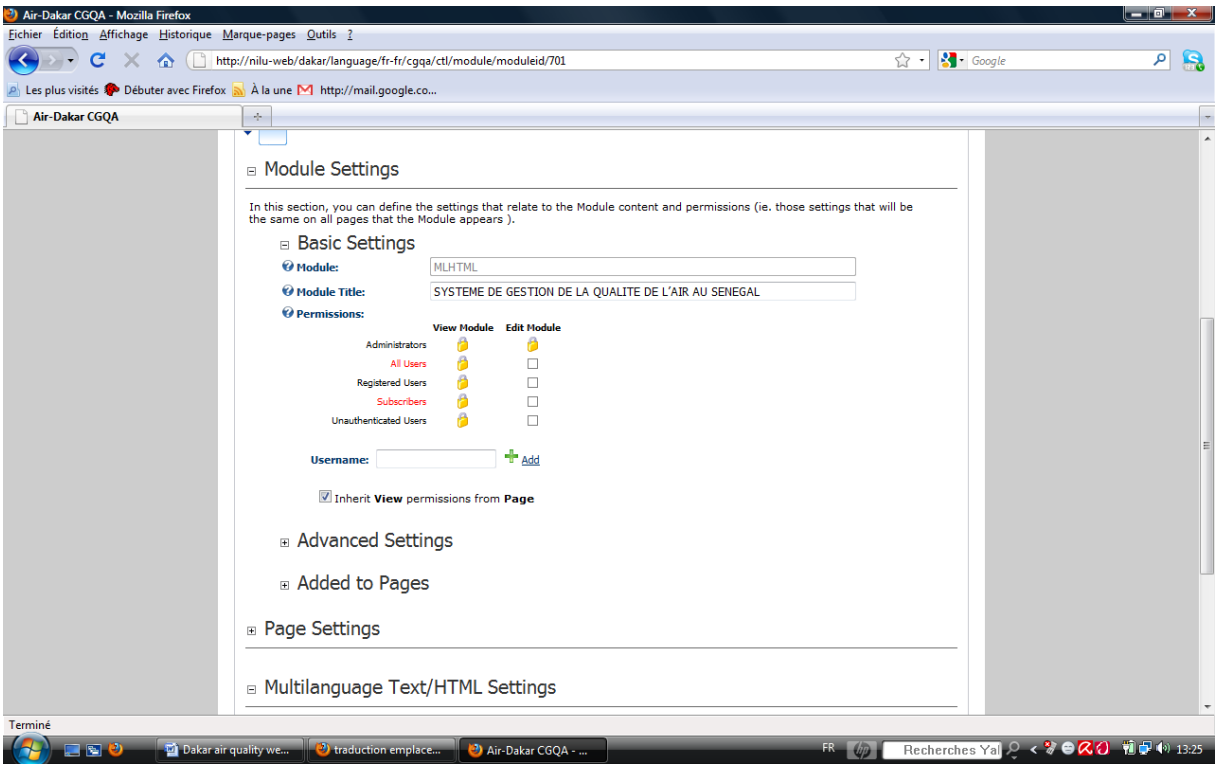
An example is shown below with the “CGQA” page.

Once edited, the source version (html code) of the page can be viewed and modified by clicking on the source button.



The “settings” link enables to define the page and module settings (see below) such as:

- Module title
- Users permissions on the module (who can view and/or edit the module)
- Pages settings
- Multilanguage settings
- Etc…



4. AQI update

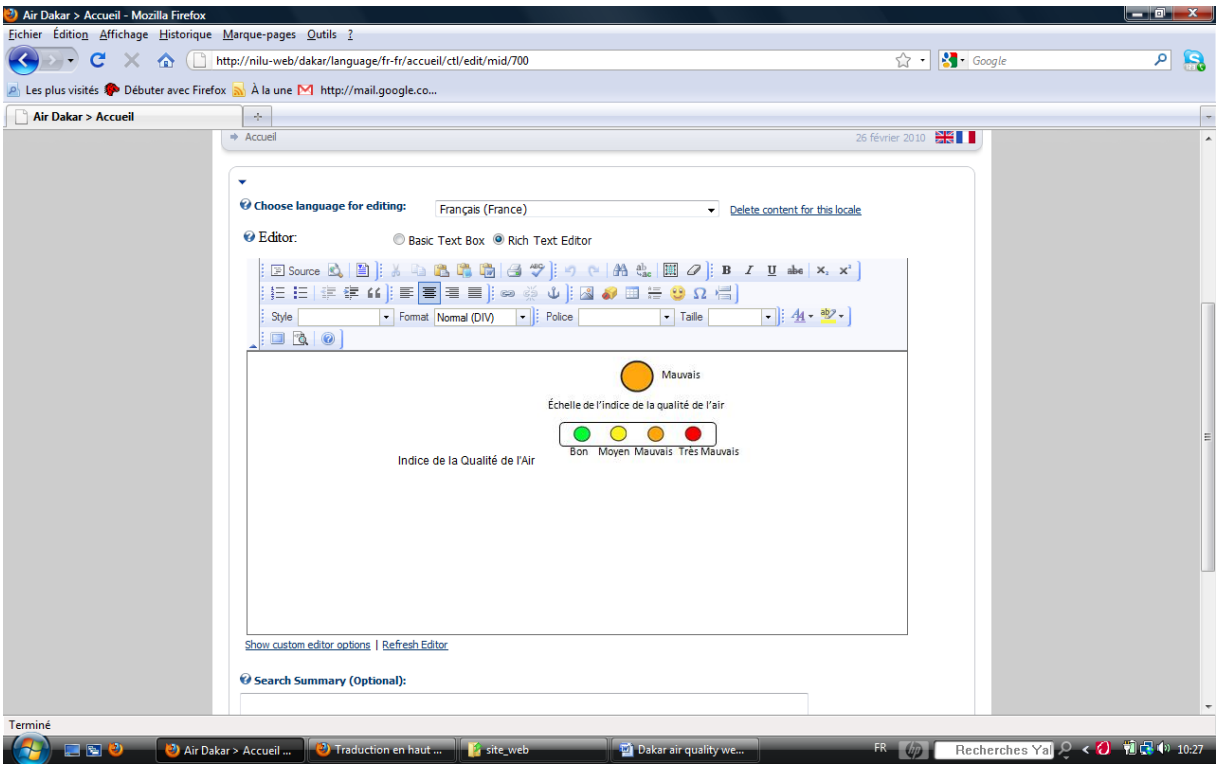
The AQI is manually updated depending on the calculation from Airquis.
Four different images files containing the current AQI and legend have been created for this task:

- indice_bon.jpg (green circle + legend) for a good AQI,
- indice_moyen.jpg (yellow circle + legend) for a moderate AQI,
- indice_mauvais.jpg (orange circle + legend) for a unhealthy AQI,
- indice_tres_mauvais.jpg (red circle + legend) for a very unhealthy AQI.

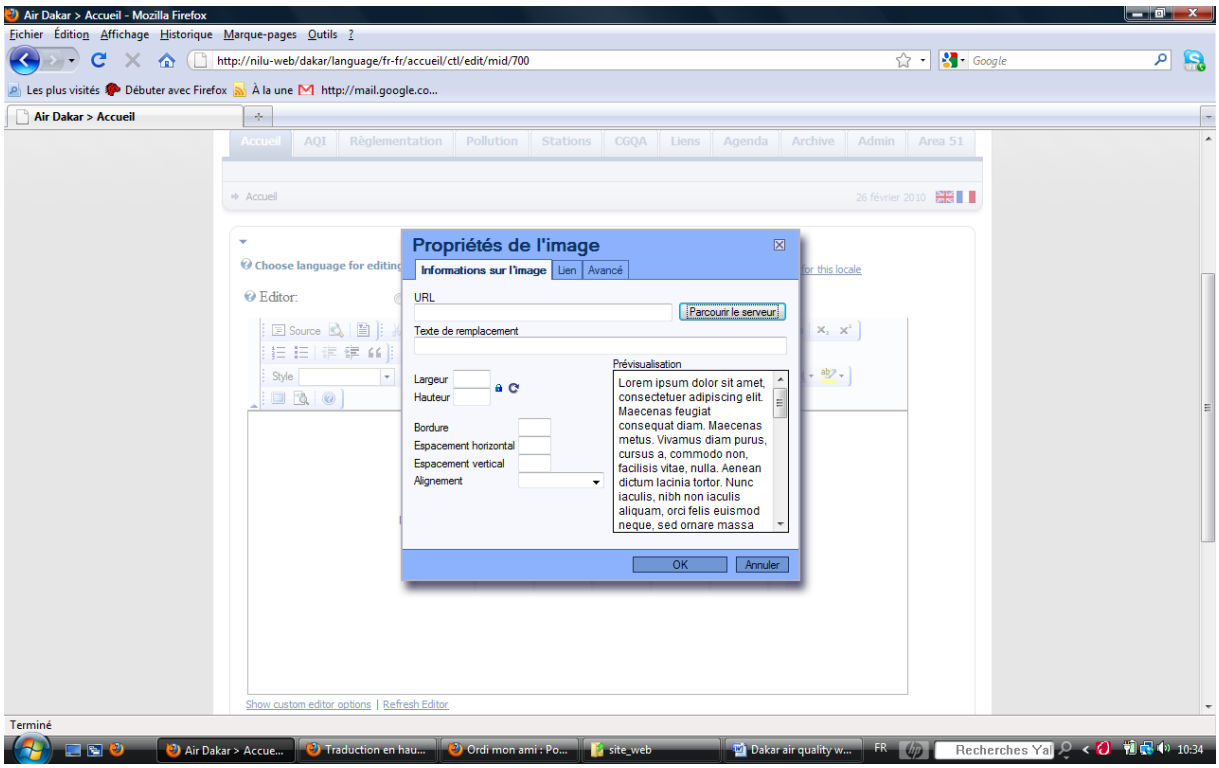
English version is available for each file; this gives a total of 8 jpeg files.
These files are permanently stored in the hard drive.

The following steps explain how to update the AQI:

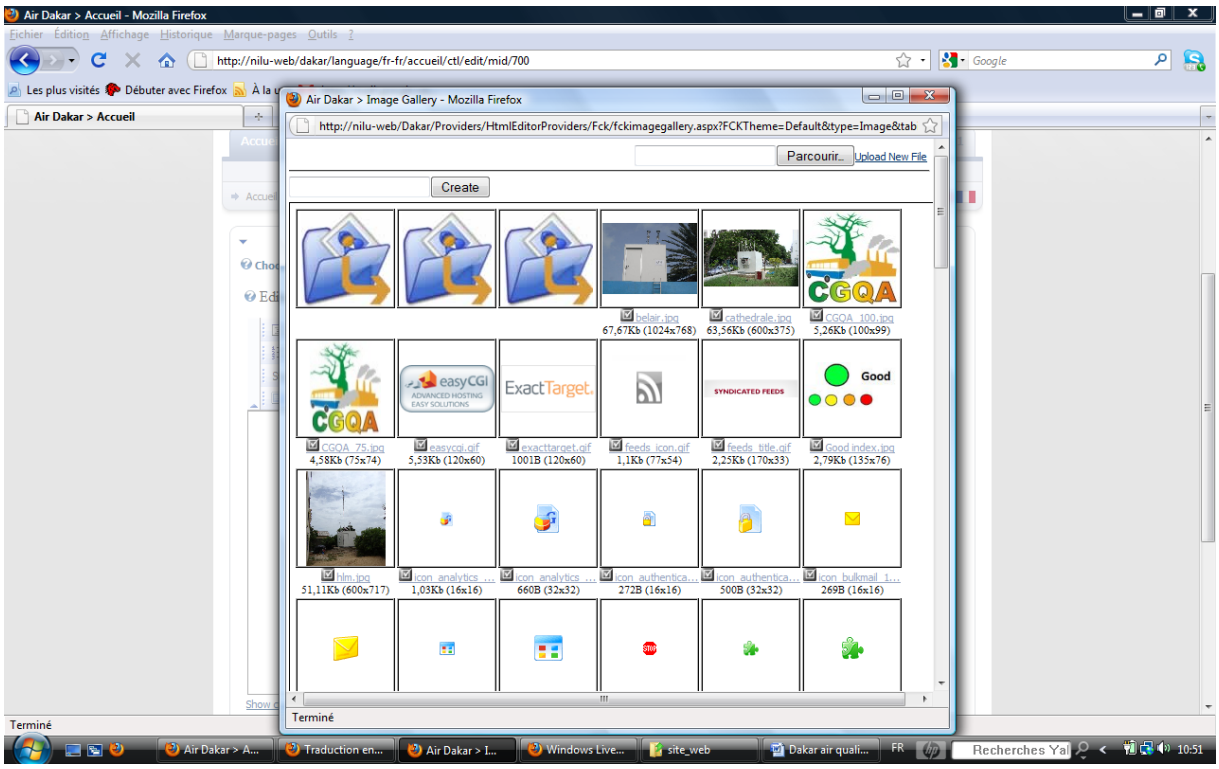
a) Click on edit text to edit the AQI module.



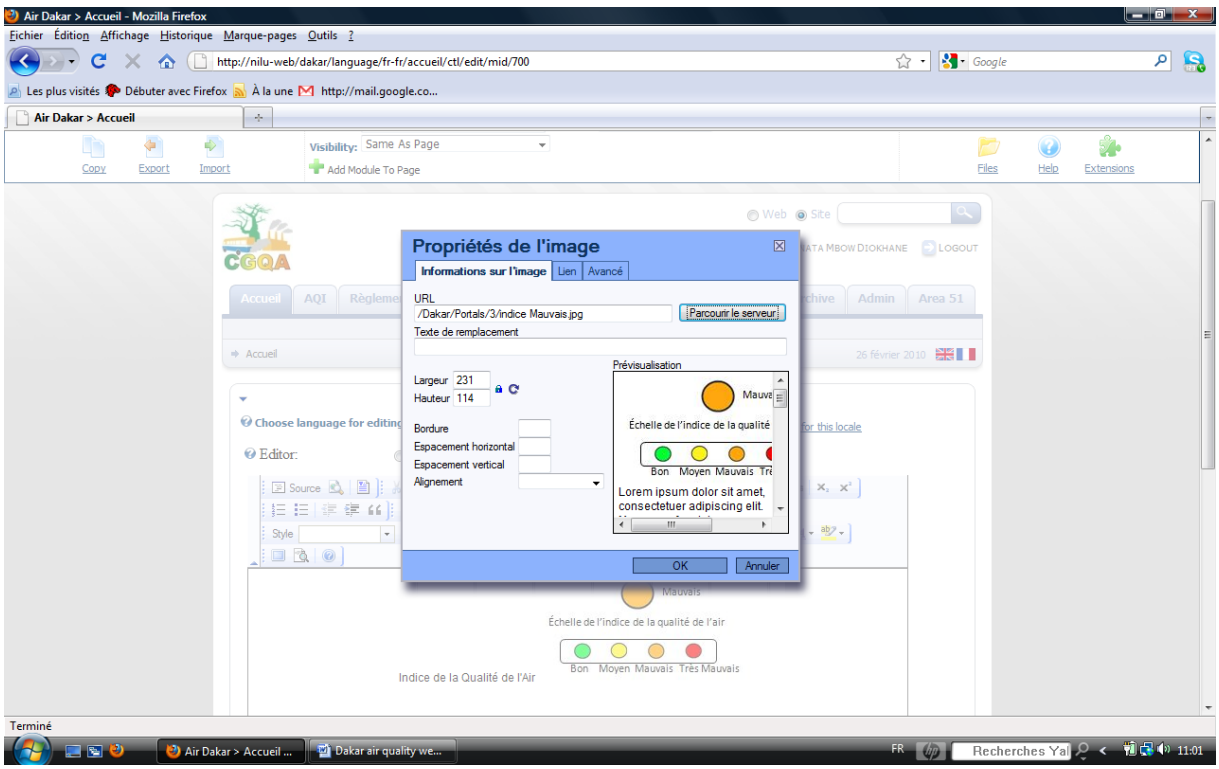
a) In the menu bar, click on the icon insert/edit image. This opens the following window:



b) Click on the button Browse server (“Parcourir le serveur”) to open the folders and choose the file if available or upload the file from its original location.



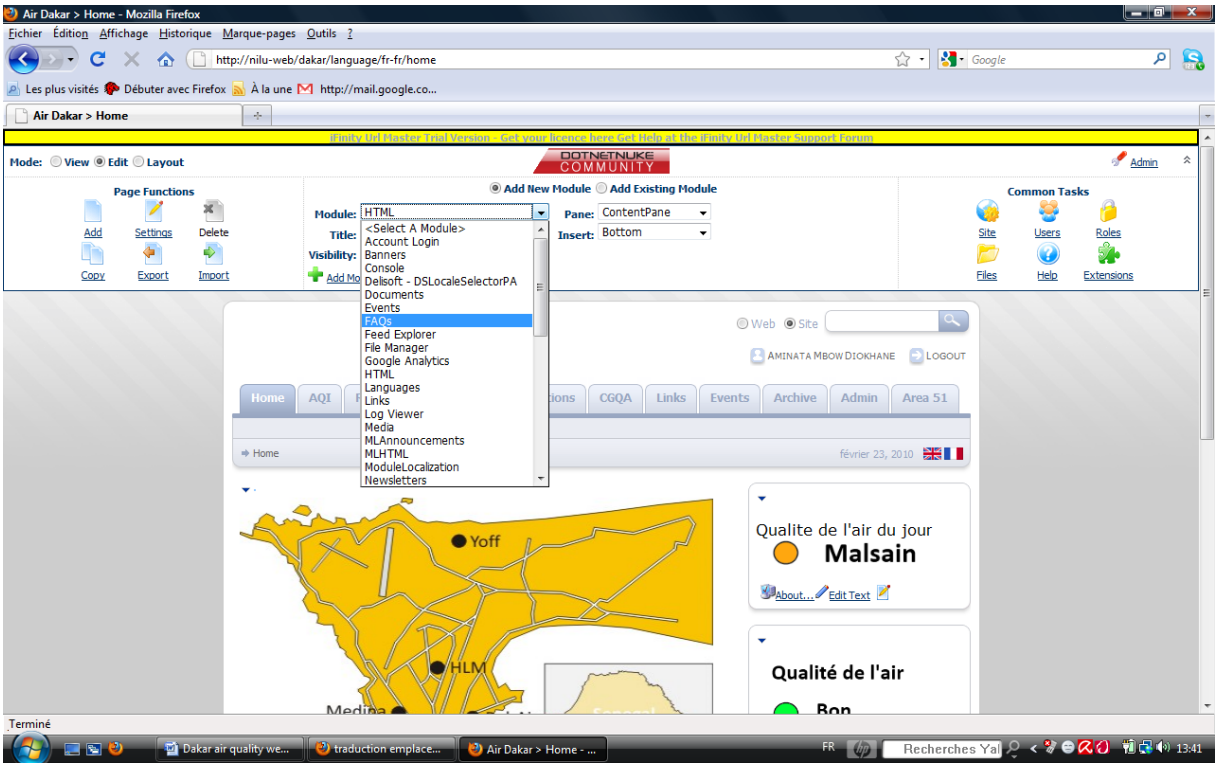
c) Once the image is chosen, the display size (width and height) can be changed if necessary.



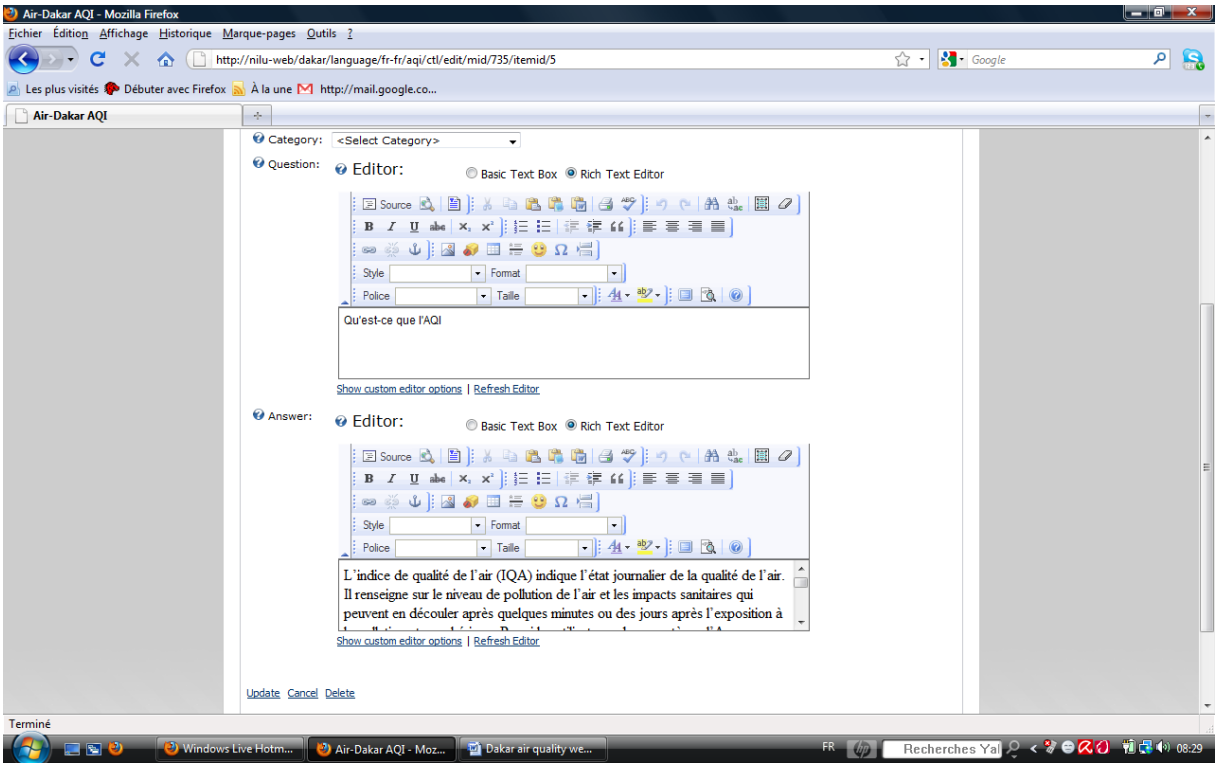
d) Click on button ok to validate and display the image in the web site.

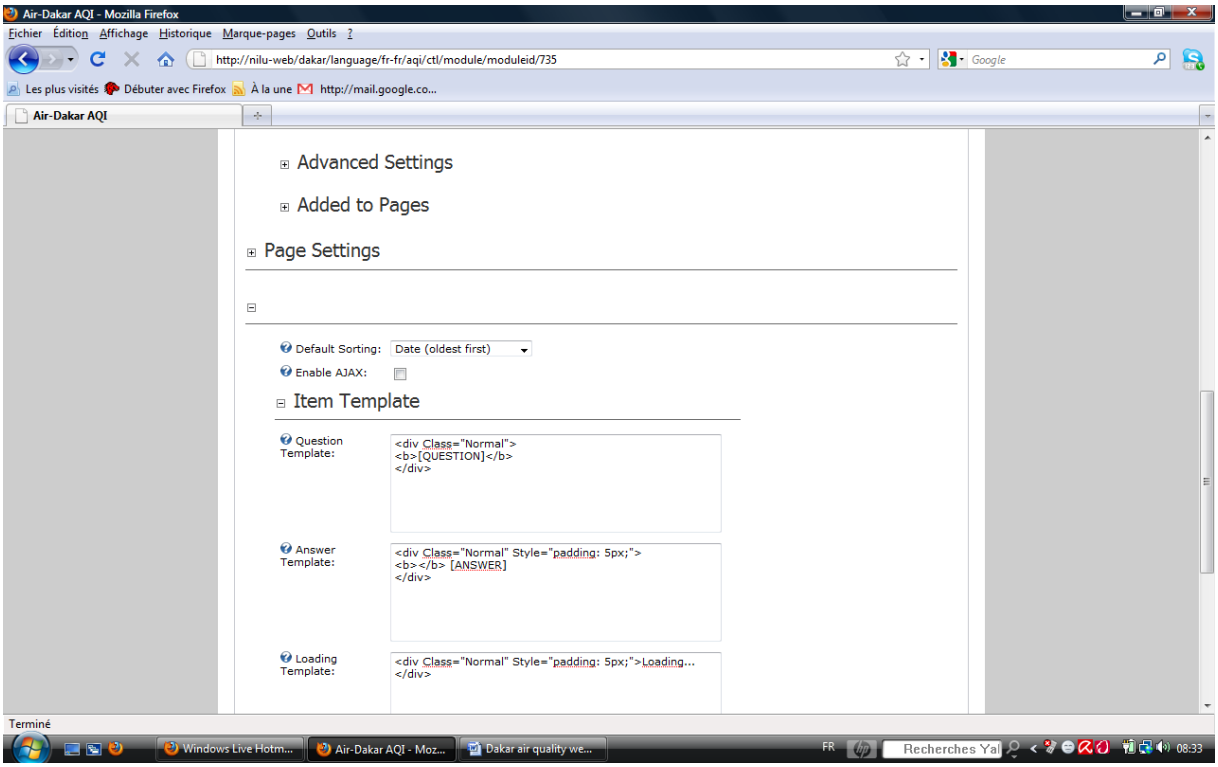
5. FAQS Management

Some pages (AQI, Regulations, etc ...) are setup as Frequently Asked Questions (FAQs)s. FAQs are added via the “Add new module” button (middle top) and select FAQs in the module list (see below).



Below the Faqs module a “Add New FAQ” link enables to access the editor for creating questions and answers. For advanced formatting of the faqs, the module settings can be viewed (in Page Functions module on the upper left corner). For example in AQI Faqs module questions numbers and the word “answer” are not displayed.


Air-Dakar AQI - Mozilla Firefox
Fichier Édition Affichage Historique Marque-pages Outils ?
http://nilu-web/dakar/language/fr-fr/aqi/ctl/edit/mid/735/itemid/5
Air-Dakar AQI
Category: <Select Category>
Question:
Editor:
Basic Text Box
Rich Text Editor
Source
Style
Format
Police
Taille
Qu'est-ce que l'AQI
Show custom editor options | Refresh Editor
Answer:
Editor:
Basic Text Box
Rich Text Editor
L'indice de qualité de l'air (IQA) indique l'état journalier de la qualité de l'air. Il renseigne sur le niveau de pollution de l'air et les impacts sanitaires qui peuvent en découler après quelques minutes ou des jours après l'exposition à
Show custom editor options | Refresh Editor
Update Cancel Delete
Terminé


Air-Dakar AQI - Mozilla Firefox
Fichier Édition Affichage Historique Marque-pages Outils ?
http://nilu-web/dakar/language/fr-fr/aqi/ctl/module/moduleid/735
Air-Dakar AQI
Advanced Settings
Added to Pages
Page Settings
Default Sorting: Date (oldest first)
Enable AJAX:
Item Template
Question Template:

[QUESTION]

Answer Template:

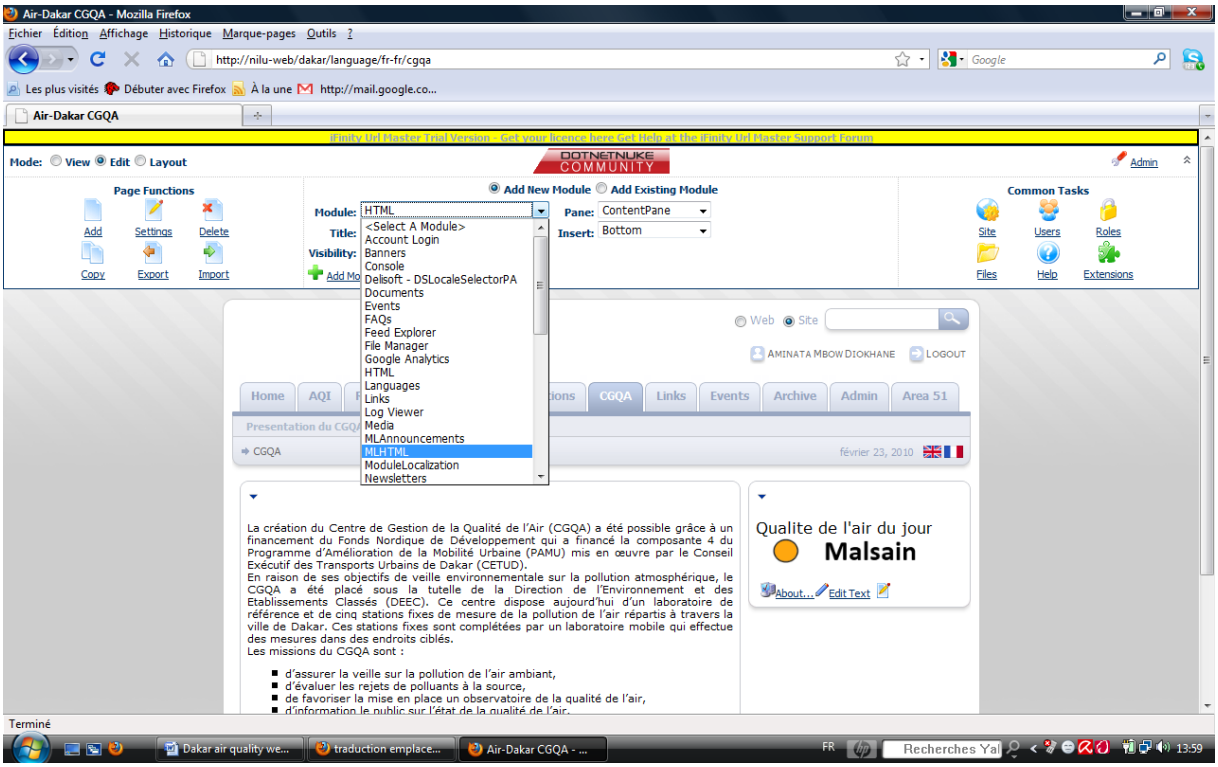
 [ANSWER]

Loading Template:
Loading...

Terminé

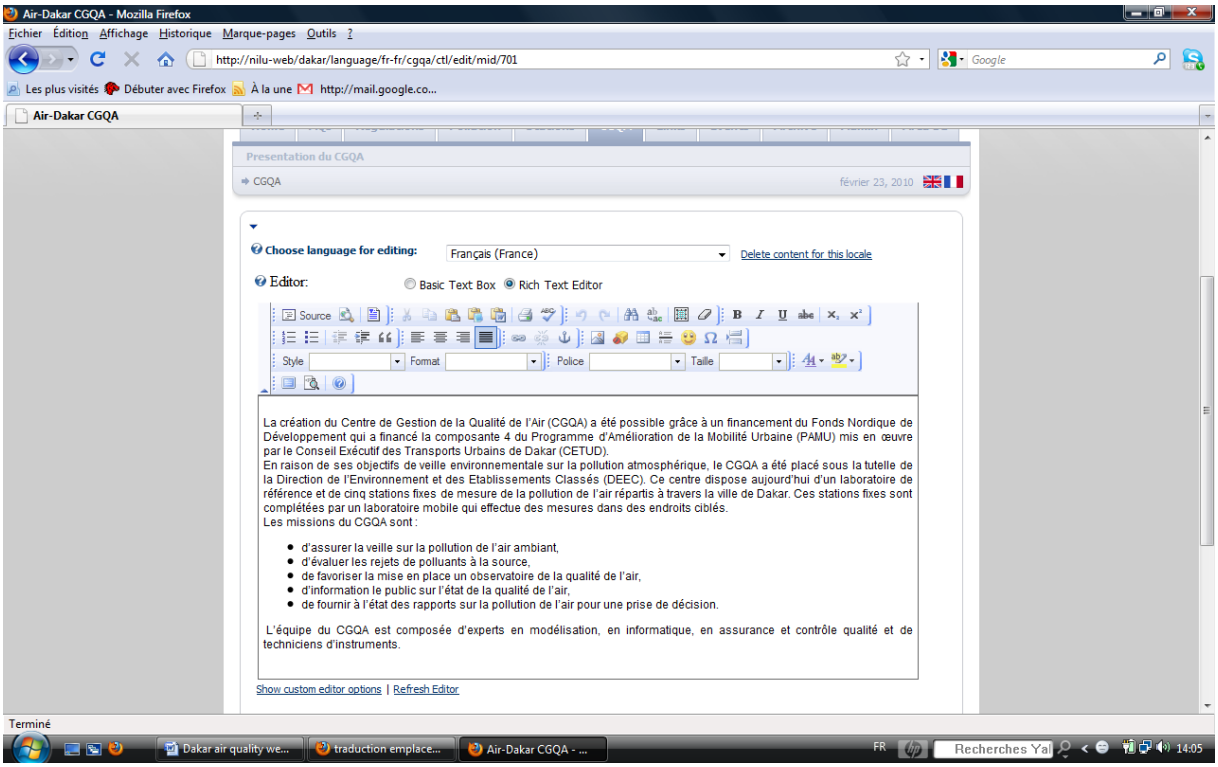
6. Language management

This portal uses French and English with French as the default language. To allow a module to be multilingual it should be set to MLHTML during its creation (see below):



Two flags are displayed in each page for switching from one language to the other.

The writing language for the page is chosen via the “choose language for editing” list displayed when the page is in edition, as shown below:

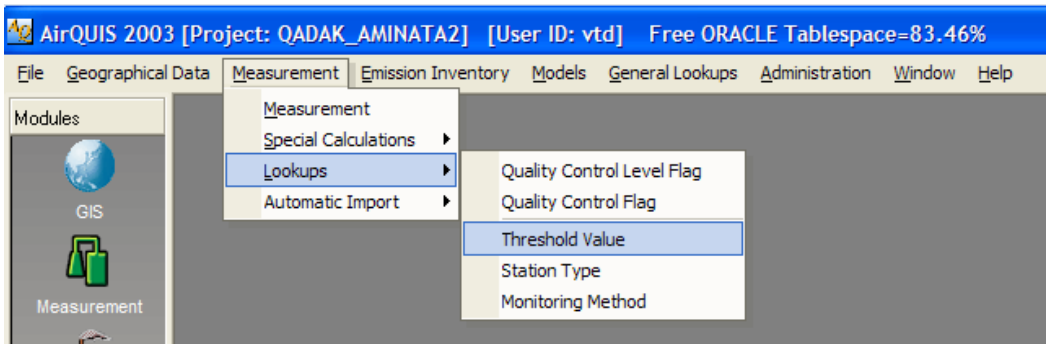


The available languages in this list depend on the administrator settings (here we have French and English).

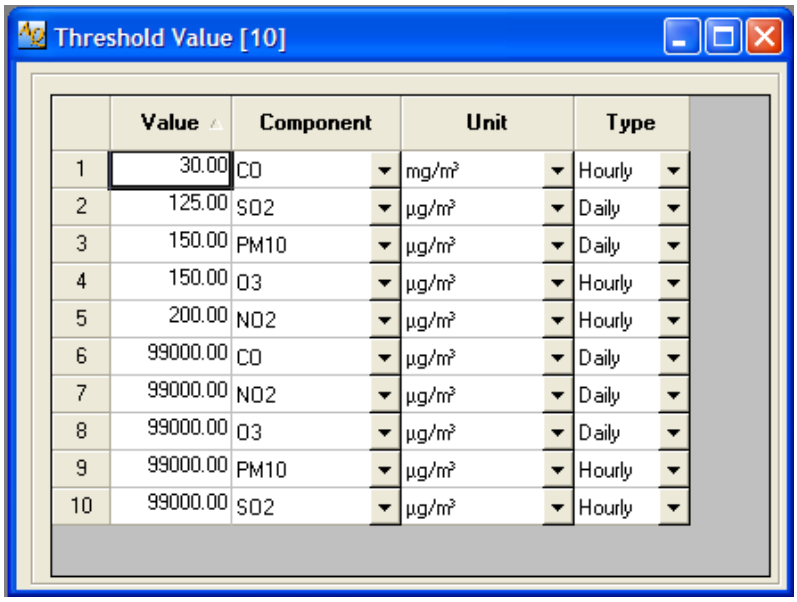
Annex A – Setting up the AQI calculation in AIRQUIS

The necessary steps to set up the AQI calculation in AirQUIS are described here under:

1. Before setting up the Air Quality Indicator (AQI) calculation in AirQUIS, open the "Threshold Window" by following the main menu Measurement\Lookups\Threshold Value, as illustrated in the picture here under.



2. Check that the limit values (National Limit Values) have been set for both hourly and daily averaging times for all the components included in AQI calculation.

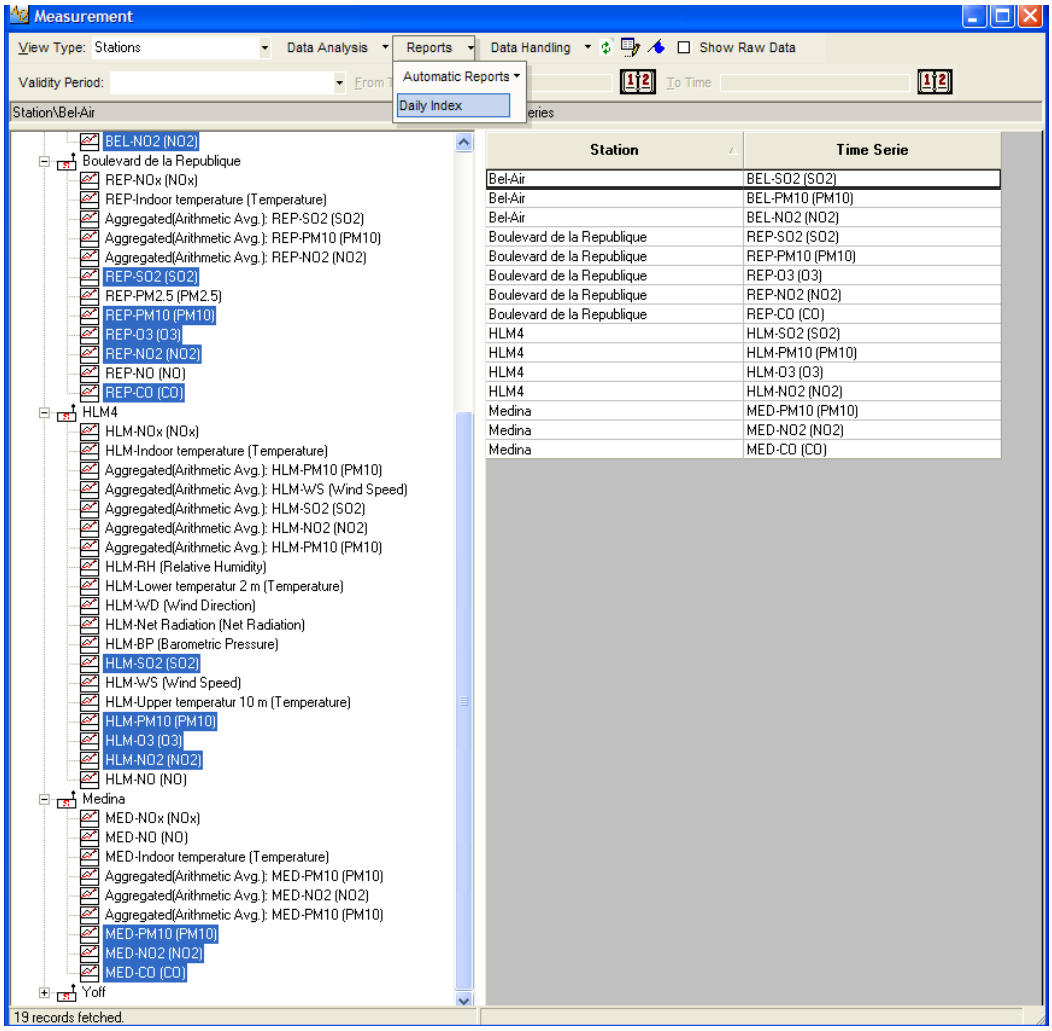


	Value	Component	Unit	Type
1	30.00	CO	mg/m³	Hourly
2	125.00	SO2	µg/m³	Daily
3	150.00	PM10	µg/m³	Daily
4	150.00	O3	µg/m³	Hourly
5	200.00	NO2	µg/m³	Hourly
6	99000.00	CO	µg/m³	Daily
7	99000.00	NO2	µg/m³	Daily
8	99000.00	O3	µg/m³	Daily
9	99000.00	PM10	µg/m³	Hourly
10	99000.00	SO2	µg/m³	Hourly

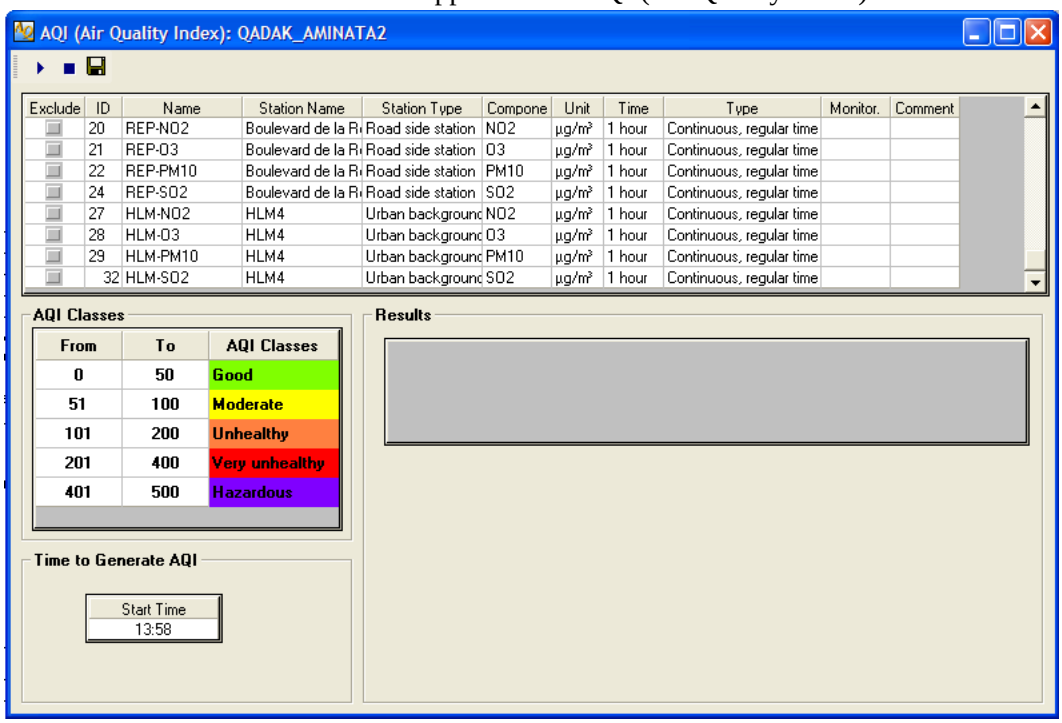
3. Start to setup AQI Calculation by opening the Measurement Module in AirQUIS

4. Open the tree-view to see all the time-series available for the measurement stations.

5. Press "Ctrl" key and select all the time-series to be included in the AQI calculation. Click on the time-series again if you wish to deselect one series that was wrongly selected. To finish, click Reports\Daily Index on the menu of Measurement Module, as shown in the image here under:



6. All the selected time-series should appear in the AQI (Air Quality Index) window.

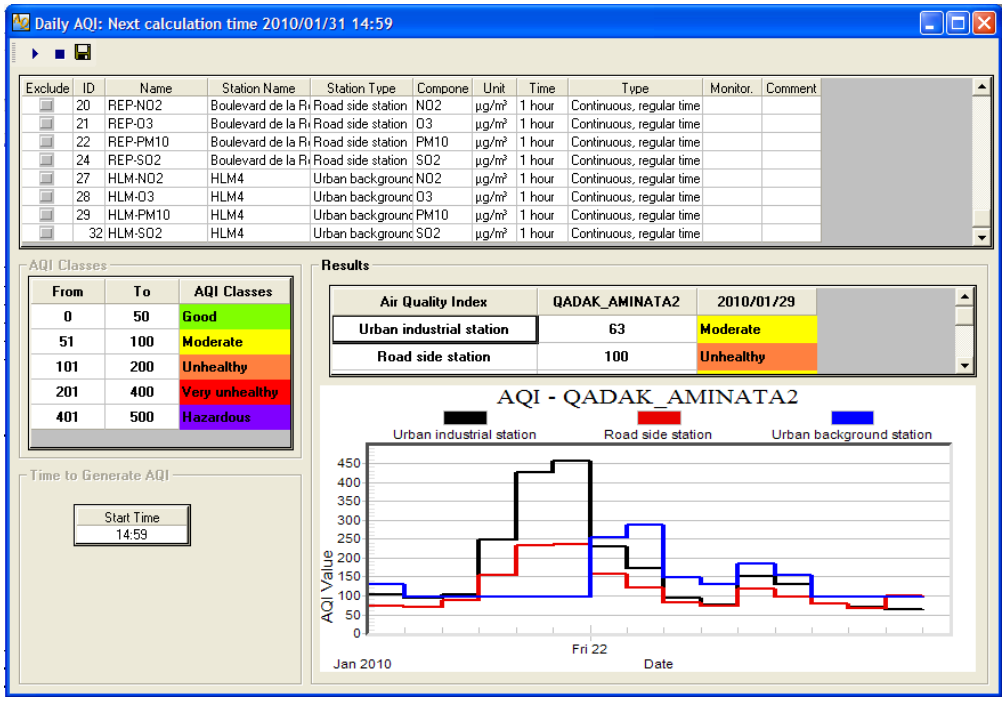


7. To Exclude time-series from the calculation, check the “Exclude” box on the left side of the time-series ID.

8. Set up Start Time for the time you wish the AQI to be updated every day (06:00 for example). The Start Time must off course be set for a later time than the current time and date on the PC’s clock.

9. Save AQI set up by clicking the Save button Click Run button . Then click the Run button to activate the AQI calculation. The AQI icon on Windows Task Bar should turn from Red to Green

10. Below is an example for a successful AQI run:



Annex B – AQI calculation to input in the Web portal

In this annexe the method used by AirQUIS to calculate the AQIs for each station type in Dakar is described in points I and II. Point III describes the procedure to determine the AQI for Dakar, based on the AQIs calculated by AirQUIS for each station type.

I. The calculation of AQI for each station by AirQUIS is done in the following way:
AQI station= Maximum (PM10 24 h average concentration/150; SO2 24 h average concentration / 125; NO2 1 hour maximum concentration / 200; O3 1 hour maximum concentration / 150; CO 1 hour maximum / 30000) x 100

Note: All concentrations are in $\mu g/m^3$.

II. The calculation of the AQI for each station type in Dakar is done by AirQUIS based on the average of the AQIs for all stations within the same station type, as follows:

AQI traffic station= Average (AQI Medina, AQI Blv. Republique)
AQI industrial station = AQI Bel Air
AQI urban background station = AQI HLM4

Note: The regional background station at Yoff is shall not be included for the AQI calculation.

III. The determination of the AQI for the whole Dakar must be done by CGQA as follows:

AQI Dakar= maximum (AQI traffic st, AQI industrial st, AQI urb backg st)

The level is defined for Dakar as:

Green-Good / Bon : AQI Dakar < 51
Yellow-Moderate / Moyen : AQI Dakar = 51-100
Orange- Unhealthy / Mauvais : AQI Dakar = 101-200
Red-Very unhealthy / Très mauvais : AQI Dakar >200

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	NILU PROJECT NO. O-105010
AUTHOR(S) Aminata Mbow Diokhane, Vo Thanh Dam and Cristina Guerreiro	CLASSIFICATION * A
	CONTRACT REF.A No 003/C/FND/05

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ABSTRACT
The current report presents the operational and editorial procedures for the Air Quality Web portal in Dakar, operated by the Centre de Gestion de la Qualité de l'Air de Dakar (CGQA). The procedure to set up the Air Quality Index (AQI) in AirQUIS is described and illustrated in Annexe A. In Annexe B a short description of how AirQUIS calculates the AQI for the different measurement station types is given, as well as the procedure CGQA has to follow to determine the AQI for the whole Dakar city to be presented daily on the Air Quality Web portal. The operational and editorial procedures for the Air Quality Web portal in Dakar have been described by Aminata Diokhane, under supervision of NILU and validated by NILU.

NORWEGIAN TITLE

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A Unclassified (can be ordered from NILU)
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