SOME LANDMARKS FOR THE DEVELOPMENT OF AN EFFECTIVE CO-OPERATION WITH AFRICAN WEATHER SERVICES

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For many years, Africans regarded meteorology as a field exclusively related to the aeronautical activities.
Today, with the prolific development of new communication and information technologies, the situation is quite different. Africans are informed about climatic risks to the planet, along with information about the periodic floods and drought with which they are confronted.
In spite of the will often expressed by Africa continent leaders to put meteorology at the centre of development, the lack of money and well trained personnel make this sector continue to be the eleventh wheel in the truck of the priorities.
Consequently, all forms of cooperation (bilateral and multilateral) are welcome to help the African countries develop, diversify, promote and make profitable the activities of their weather services. We will explore here some landmarks on the way to engaging and carrying out this cooperation towards success.
**Training**: Tangible examples speak better than theories. A few weeks ago, from 29 January to 23 February 2007, 11 technicians (weather observers) from various National Weather Services of sub-Saharan Africa came to EAMAC (African School of Meteorology and Civil Aviation, Niamey, Niger) for training. The only woman was the youngest person. She had finished her studies 10 years ago at EAMAC, and had never had any training since then. The oldest person has not attended any training courses for 32 years. The table specifies these elements (we voluntarily conceal the names by discretion).
**Actions**

Meteorological observation training from 29 January to 23 February 2007

<table>
<thead>
<tr>
<th>No</th>
<th>First Name</th>
<th>Country</th>
<th>Last training</th>
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<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>U</td>
<td>29 ans</td>
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<td>2</td>
<td>B</td>
<td>V</td>
<td>32 ans</td>
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<td>3</td>
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<td>V</td>
<td>19 ans</td>
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<td>4</td>
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<td>V</td>
<td>29 ans</td>
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<td>5</td>
<td>E</td>
<td>W</td>
<td>21 ans</td>
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<td>6</td>
<td>F</td>
<td>U</td>
<td>27 ans</td>
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<td>7</td>
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<td>V</td>
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<td>20 ans</td>
</tr>
<tr>
<td>11</td>
<td>K</td>
<td>X</td>
<td>10 ans</td>
</tr>
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Training: One can immediately draw two important conclusions from this table:

♣ To help Africans effectively, it is necessary to first identify with us our true problems (do not assume to understand them).

♣ The identification of the problems means to completely assess them, with a particular focus on the weather stations beyond the capital cities.
**Actions**

**Training:** Initial as well as continuous training of personnel requires urgent and crucial action to ensure that weathermen are well trained and have up-to-date skills at the African National Met Services.

Satellite Meteorology Training at EAMAC organised and funded by EUMETSAT Nov 2005
Training: The training comprises two aspects:

- The first aspect is to train the trainers in order to reinforce their expertise and keep them up-to-date on new technological developments.
Training: The training comprises two aspects:

- The second aspect is the training of the operational and maintenance personnel at the NMSs. This area has the greatest requests and requires the greatest ongoing, permanent effort to provide.
Actions

Assuming a couple of changes, EAMAC is a realistic solution for an effective setting for personnel training at lower cost for NMSs.

Moreover a great number of meteorologists and equipment maintenance personnel for West and Central Africa have already been trained at EAMAC.
Actions

The training of the trainers will have to be conceived within the framework of the transfer of expertise between the countries of north and those of the south. This should take in account the real training needs of the partners from the south.

The trainers could be trained in the USA and in Europe in suitable Centres (UCAR, EUMETSAT, Météo-France, Reading-U.K, training in equipment factories, etc).

Training at UCAR/COMET (Boulder-USA) of 2 instructors of EAMAC for ASMET Project 1997
Actions

♦ **Equipment:** Generally, the principal weather centres in the countries in West Africa have more or less suitable equipment to ensure daily service.

However, the weather stations in the interior of countries are very often missing essential equipment for normal operations, such as barometers in good condition, max/min thermometers, etc.)
Assistance with the update, permanent maintenance, and replacement of obsolete equipment can be regarded as the second keystone of the requirements in cooperation.
Actions

Telecommunication: The work carried out by meteorologists has value only when it arrives at the users who need it.

In spite of the difficult conditions in which some of our colleagues work, it very often happens that the results of their efforts do not arrive to the users because of failures in our telecommunication systems.
**Telecommunication:** It is critical to examine how the observations and weather products are routed and delivered. This examination will have to change the way new technologies (e.g. Internet) are implemented in our countries.
Project and Co-operation Killers

- Management of funds from the partners: The funds for establishing and running a project can be the origin of problems before a project is given a real chance of success.
Management of funds from the partners: With ASMET project, we express the needs (training, equipment, seminars, workshops, etc.) and EUMETSAT take actions.

Training at UCAR/COMET (Boulder-USA) of 4 meteorologists from Africa for ASMET Project 1997-1998
Management of socio-cultural issues: Beyond the funding of the needs of NMSs, it is vital for the success of the co-operation to study and integrate socio-cultural realities in the implementation of assistance. This can be done by considering three levels:

- **Decision makers**
- **Personnel directly involved in the execution of the projects**
- **End-Users beneficiaries of the projects.**

In addition, it is important to consider the relationship between those levels and the donor organization (see EUMETSAT example).
Project and Co-operation Killers

Management of relationship

- Decision makers
- Donors
- Personnel involved in the execution of the projects
- End-Users beneficiaries of the projects

Permanent Balance
Choice and motivation of the expertise:

West Africa abounds in very well trained meteorologists, likely to animate and lead to the success any project of weather services improvement. However, expertise has a price as all that relates to quality.

The external partners together with decision makers of the structures having meteorology in charges in the countries, can easily track and find the best experts in each field concerned. (see EUMETSAT example).
Choice and motivation of the experts:

True expertise must be paid at the right price and its level raised and maintained through continuous training and participation in seminars and other international workshops related to meteorology (see EUMETSAT example).
Project and Co-operation Killers

- **Sustainability by renewal of experts and equipment:** Ensuring that the experts and equipment remain up-to-date requires planning from the outset. It is important to plan for the future when the original staff leave their positions (retirement, changing jobs, etc.) and replacements must be brought in and trained. New young, qualified, and motivated meteorologists must be found from operational settings. There is always the risk that they will leave after they have been trained.

Moreover, old equipment must be renewed.
Sustainability by generating income: The assistance of the co-operation with the NMSs normally aims at the improvement of service to the users. Although a NMS is a public service, in the long term, it will have to be able to generate income. It will thus be necessary to include in the co-operation the development of activities likely to generate this income.
Summary and recommendations

Summary:

- **Priority actions to carry out to improve the services of the NMSs:**
  - To identify the real problems
  - To train trainers and personnel
  - To provide suitable equipment and renew it as needed
  - To improve weather service telecommunication
Summary:

- **Project And Co-operation Killers**
  - Management of funds (consensual solution)
  - Cooperative management of the socio-cultural issues: (relations between external partners, decision makers, experts, personnel involved in running the project, and the End-users).
  - To search for the best experts in each field concerned
Summary and recommendations

Summary:

- **Project And Co-operation Killers**
  - To pay African experts the right price and keep their level of knowledge and skills high.
  - To target in the operational centres young personnel qualified and motivated who can take over for the more experienced people when they leave.
  - To update and renew equipment.
  - To include in the co-operation the development of activities likely to generate income.
Recommendations:
As regards the training of personnel in meteorology and equipment maintenance, the experience and infrastructure of EAMAC make it a good partner. For over ten years, the German Ministry of Co-operation (GTZ), EUMETSAT, WMO, UCAR (COMET, Boulder, USA), ASECNA (EAMAC-Niamey) and KMD (IMTR-Nairobi) engaged in a multilateral project (ASMET) to design modules of computer-assisted learning in satellite meteorology intended for African meteorologists (English and French speaking).
Recommendations: The ASMET project is still operational after 10 years. The initial team is still in place and we have new members to ensure its continuation. This project has been successful in all respects.

This experiment of EUMETSAT can certainly enrich the study and the establishment of new projects in the domain of meteorology in Africa. ASMET has been so successful because many of the issues raised in this talk have been successfully managed.

4 members of the ASMET team EUMETSAT Headquaters March 2007 21/03/2007
End of this Presentation

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16-30 March 2007