



Sustainability in the Air Force: Air Force Base 123

military-Earth thinking notebook

le Colonel Luc de RANCOURT

Published on 29/06/2018

Valeurs de l'Armée de Terre

This article appears in the Cahiers with the kind permission of Penser les Ailes françaises, the magazine in which it appeared a few months ago. Sustainable development is indeed a concern of the entire Ministry of Defence, and however constraining it may be, it is now an inescapable notion, engraved in the law. Even if the example of BA 123 certainly represents an extreme case because it is emblematic, many regiments or land-based defence bases will have to learn from Colonel Luc de Rancourt's experience. As such, his testimony has its place in the Cahiers; it highlights the difficulty for the military leader to reconcile two a priori contradictory objectives: the local implementation of the sustainable development policy and the durability of the combat tool.

The air base: an operational platform

The air base is first and foremost the combat tool of the Air Force. It is also the local level for implementing the Ministry's sustainable development policy. The difficulty for the base commander is therefore to reconcile these two objectives which, at first glance, may seem contradictory. Indeed, sustainable development can be perceived as an additional constraint, likely to overburden our operational capabilities by making demands that would run counter to the need for responsiveness and confidentiality and that would weigh down both our procedures and our organisations.

However, it is worth putting this policy, which the French Air Force has wanted for many years, back into perspective with the profound restructuring that is currently disrupting our defence tool. We are indeed in the process of building a new model, for which sustainable development is a natural necessity.

For all that, let us not forget that, to be credible, sustainable development requires a

significant financial investment which, at times, may prove to be beyond the reach of the base commander as the needs are so great.

Finally, it is necessary to recall that this policy must be a long-term one and that, far from the fashionable effect that it might have in some cenacles, it has taken shape at Air Force Base 123.

The choice of Air Force Base 123 as a pilot site for sustainable development

The reasons for choosing the Orléans base as a sustainable development pilot site are clearly linked to the A400M project, the first copy of which will arrive in 2013. The investments required for this project make Orléans a sustainable base for many years to come.

However, while this flagship project tends to catalyse all the attention, it alone cannot justify this choice. The case of Air Force Base 123 is interesting for more than one reason. First of all, it is a major Air Force base because of its history (as old as that of the Air Force), its surface area and the facilities it hosts (more than 750 hectares, 180.000 m² of built-up area, 46 ICPE, 15 structures subject to the Water Law), and by its personnel (2,600 people whose variety of missions and operational commitment are supported). The base is also at the heart of the modernisation of the Ministry of Defence since it has been the headquarters of the Orléans-Bricy Defence Base (BdD) since 1 September 2010 (i.e. a community of 6,200 military personnel).

All these elements must be taken into account in the social, environmental and economic dimensions of sustainable development. The stakes in this area are therefore high and make Orléans-Bricy a unique laboratory.

The environmental aspect

The environment is by nature the most visible and concrete aspect of sustainable development policy. In order to draw up an objective inventory of the base, we relied on three audits: an environmental audit, a carbon footprint and an energy audit. The analysis of the data collected was carried out according to the following themes:

- travel and mobilityThe "Air Force Base 123" project: analysis of the movements generated by the activities of the base inside and outside its perimeter, as well as the modes of transport used;
- buildingsData collection on the state of the base's buildings from an energy point of view (insulation, losses observed);
- energyEnergy consumption analysis, distinguishing between sources and uses (heating, air-conditioning, fuels, power supply);
- telecommunicationsAssessment of existing telecommunications installations on the base;
- waterAnalysis of drinking water resources, water uses, means of collecting and treating rainwater and waste water;

- waste and pollution(b) Assessment of the existing telecommunications facilities on the base; (c) Analysis of drinking water resources, water uses, and means of collecting and treating rainwater and waste water
- air and noiseThe results of the measurement campaigns carried out during the first half of July 2010;
- fauna, flora and landscapeThe results of the measurement campaigns carried out during the first half of July 2010; - Consideration of local biodiversity and landscape problems generated by the base;
- purchases and suppliesThe results of the measurement campaigns carried out during the first half of July 2010: consideration of local biodiversity and landscape issues generated by the base; and the needs expressed in terms of public procurement and procurement procedures.

Sustainable development...

These audits led to the establishment of a 55-action plan, 20 of which were adopted by the Memory, Heritage and Archives Department (DMPA). Ten of these actions are part of a regulatory framework to bring facilities up to standard and the other ten are part of a non-regulatory framework guided solely by the objectives of responsible development of the base's activities. By way of example, the carbon balance sheet is a perfect illustration of the difficulty of integrating the operational dimension into the sustainable development approach: 80% of greenhouse gas emissions are directly linked to aeronautical activity. However, these audits have enabled us to obtain an interesting map of the base's activities, highlighting the four largest emission items: energy, the movement of people, the heritage sector and supplies. As a result, four main areas of effort were defined: travel, energy, water and waste management.

With regard to **water management**, the quality of water measured and analysed regularly is satisfactory, particularly at the end of the wastewater treatment process. This demonstrates the proper functioning of the natural treatment by the network of lagoon basins in series that equips the base. However, as far as the drinking water network is concerned, the drilling of the base no longer meets drinking water standards; moreover, 30% of losses are measured. In January 2010, I therefore decided to opt for a different solution that would rely on the public network of the surrounding communes and which would lead, over five years, to the rehabilitation of the distribution network. In addition, rainwater recovery systems will be installed on the new buildings and on the next A400M wash bay. Similarly, a project to eliminate water leaks from three buildings, which account for about 16% of the base's overall water consumption, has been proposed.

In terms of **energy management**, the base has seven boiler rooms, two of which are natural gas fired, providing heating for the mess and the majority of the accommodation buildings. During the A400M refit, one of these boiler rooms, which is particularly energy intensive, will be converted to a natural gas boiler room. One-third of the base buildings are equipped with electricity meters; in 2010, we received additional funding to equip some 20 buildings. Finally, following the energy audit conducted on 61 buildings on the base, an energy savings action plan was proposed to the Air Force Support Command (AFSC). This action plan aims to put in place quick and inexpensive solutions, such as improving ventilation, renovating lighting or optimising insulation. In order to limit heat loss due to air exchange, the installation of double-flow ventilation with heat recovery has

also been considered as an alternative to conventional mechanical controlled ventilation (MCV), although this solution remains expensive.

In the area of **travel**, **22%** of the base's personnel use public transport, either carpooling or the seven bus lines implemented by the base. To further develop these modes of transport and limit CO₂ emissions during home-to-work trips, we have implemented software on the Intradef site at the air base; to date, the results have been mixed. As for travel on the air base, a bicycle path has been built to promote so-called "soft" modes of transport. In reality, this project has not led to any real change in habits. I therefore called on the Polytechnic School of Tours to take over the basic traffic plan. Five students, as part of their end-of-study project, presented me with three options focused on changing travel habits, with an increased use of pedestrian and bicycle routes, as well as a study of a car-free project. Finally, ten electric vehicles have been ordered and should be delivered this year.

Waste management is also being addressed at Air Force Base 123. The base, which is equipped with a waste disposal facility, treats its waste in accordance with the regulations in force on hazardous waste. Thanks to selective sorting and the various collection points scattered around the base (in particular for polluting waste placed close to the main users), sorting is now relatively well monitored by all units. In all, nearly 250 tonnes of waste are collected and recovered each year. The contracts we have awarded in this area exclusively call on ISO 9001 and ISO 14001 certified companies. As far as medical waste is concerned, the base uses a specialised circuit for all waste from activities with an infectious risk (DASRI) and waste from the medical sector. These wastes are stored in dedicated containers, then sealed before being collected and incinerated. Individualized storage of plastic materials (bottles in particular) and tracking of household waste are still to be planned. The storage areas for rubble and reformed materials must also be treated. Finally, there is, in my opinion, an important area for progress directly linked to the activity of the base, namely the process of withdrawing our venerable C-160 Transall from service. The carcasses of these aircraft are stored at Air Force Base 279 in Châteaudun. While the department is committed to taking the environment into account in defence equipment, particularly during this phase of the decommissioning of the matériel. However, although the Ministry has committed itself to taking the environment into account in defence equipment, and in particular during this phase of withdrawing equipment from service, we note today that it does not have the means to implement this policy because the Châteaudun airbase is not in a position to eliminate this waste.

I would now like to turn to the issue of the **pyrotechnic** clean-up operations **that have marked** the base's activity for almost two years. The air base was heavily bombed in 1940 and 1944. In order to carry out the infrastructure work required to accommodate the A400M, it was therefore necessary to clean up the site in accordance with the regulations. These operations placed heavy constraints on all personnel and local residents. They required close coordination with the services of the prefecture and neighbouring municipalities. 11 million, not including indirect costs (availability of the fleet, litigation, refurbishment of buildings); 27.27. 327 targets were identified and processed; 330 munitions were destroyed and only 10% of them required the establishment of a security perimeter.

On an air base, the issue of **noise** disturbance **is also** a constant concern. In this area, BA 123 has a significant advantage as it is not subject to much urban pressure. However, this has not prevented us from conducting a study to integrate the arrival of the A400M into Orléans' airspace.

As for **air quality**, the nitrogen dioxide and benzene measurement **campaign** in 2008 did

not reveal any significant issues.

Finally, the air base has many **natural wooded** areas **which**, due to their animal and plant species, have a significant biological richness. In this context, an agreement with the Conservatoire des espaces naturels for the study of flora is being finalized. Similarly, we are involved in a partnership with the National Office for Hunting and Wildlife (ONCFS). In addition, a hunting company ensures the hunting management of the base.

The economic aspect

With regard to the economic aspect, the main difficulty encountered relates to the heavy investment **required** to implement the Air Force's sustainable development policy. The return on these investments can only be envisaged in the long term. The audit of the boiler rooms shows, for example, that switching all the base's heating plants to natural gas would allow, for an investment of 2.2 million euros, an annual saving of 25% and amortisation over nine years. The energy audit also estimated that a financial investment of €8 million would lead to a saving of €300,000 per year, amortised over 27 years. Moreover, the new infrastructure programmes aim to achieve HQE (High Environmental Quality) standards. However, the associated additional cost is difficult to assess. The initial objective of constructing such buildings for infrastructure dedicated to the A400M has therefore been revised downwards. Initially planned at around 5%, it is now approaching 20-30%, according to the building and public works companies. Nevertheless, the project still has a certain ambition; we will make sure as far as possible to respect these HQE standards (standards defined according to the purpose of the building). Thus, for the training centre, the effort will focus on acoustics; for the control tower, on visual and acoustic comfort; and for the maintenance building, on waste and water management.

The 2008 environmental audit also drew my attention to the origin of the base's suppliers. More than half of them are more than 50 kilometres away from the base. By refocusing our **procurement on local networks**, we will promote the integration of the airbase into its environment while reducing our CO2 emissions (procurement related emissions represent 14% of the base's emissions, excluding operational activities). This operation nevertheless has a cost that we will have to integrate. In this respect, the move to a BdD is an interesting development factor.

The greater financial autonomy that the commander of this ODB will eventually enjoy will make it easier for him to incorporate sustainable development into the technical clauses of the various contracts. In this respect, the Minister of Defence has sent a letter to each of the defence base commanders, in which he urges us to integrate sustainable development concerns into our operations. Instructions have therefore been given to the Orleans BdD's procurement-finance department to reduce the weight of road travel in the context of procurement and supply. The base must be made "eco-conscious". However, we are still in the early stages of development. Indeed, the long-term budgetary vision has not yet fully entered the mores of public finance. While the Ministry of Defence now benefits from three-year budget planning, this is not the case for the air base. As a result, it can be tricky to carry out projects whose economic profitability can only be envisaged over a period of six to ten years. In sum, budget construction for SD projects remains complex and can only be supported by the staff. As the support provided by the Environmental Investment Fund (EIF) is only complementary, the majority of these projects remain effectively the responsibility of the air base.

The social component

Finally, I would like to address the social aspect, because this dimension cuts across all the projects presented and is the basis of the reform. With the arrival of the A400M, the **territorial reorganisation of the French Air Force and the transition to the BdD, Air Base 123** is at the heart of the transformation of the Ministry of Defence. Moreover, because of its three specific features (military air transport, commandos and special forces, information and communication systems), it plays a decisive role in France's operational projection. Nearly 300 military personnel are thus engaged daily in the various external theatres. The combination of these two phenomena is therefore a source of legitimate concern for these soldiers and their families. This is why I have set up a special monitoring system at the airbase to limit the impact of these changes on personnel as much as possible. On the basis of personal initiatives, I wish to **support the families of personnel on external operations**. This policy has two components: on the one hand, the decentralisation of family support to the units themselves and, on the other hand, the provision of practical tools to enable unit commanders to fulfil their role in this area. In this respect, the departure circuit for external operations requires passage through the Personnel Condition Section (PCS). The mission of this section is to inform military personnel and their families. To this end, it publishes an OPEX family booklet and a psychological information guide. For their part, unit commanders systematically send families a letter containing all essential information (point of contact at the air base, etc.). On 30 January, we also invited the spouses and children of our military members who are on overseas operations; I was able to see that there was a real demand in this area, a demand that we will try to meet even more.

The **relocation of the telecommunications group (BG 10,800) to Évreux** is in addition to an overall overhaul of the information and communication systems (CIS) trades. In order to enable a transfer under the best possible conditions, the unit commander is considering calling on a theatre troupe, an initiative that I particularly support. In addition, I have invited my counterpart in Évreux, Colonel Vincent Séverin, to come and present the many actions he has already taken to ensure the best possible integration of the personnel concerned and their families.

The good **integration of the base into the local environment** is also a factor of stability and well-being for the base personnel. It is important that links be forged in all areas, be they institutional, economic or cultural. As an example, I have discussions with the municipalities of the garrison and Orléans, the general council, the rectorate, the chamber of commerce and industry, and the local government, and many other local economic partners, regular relations that are likely to raise awareness of the quality of the military personnel on the base. This facilitates their integration and that of their families. I must, moreover, commend the quality of the welcome and support given to military personnel in the Orléans region by all local officials.

Finally, even if it may seem anecdotal, the organisation of the **2010 meeting has helped to** unite the base around a common project, of which it has taken legitimate pride. This event made it possible to introduce the working environment of military personnel to their families and to participate in the Air Force's influence in the Centre region. 40,000 visitors were thus welcomed despite difficult weather conditions. Everyone I met told me how much they were struck by the smiles of our airmen.

In conclusion, the implementation of a sustainable development policy starts with raising staff awareness to save energy, pollute less and waste less. Changing habits and

mentalities is the basis of the reform. The eco-responsible behaviour we adopt at home must be reflected in our professional activity. However, we must not forget our core business and the reason for the existence of our institution. Just like companies, for whom economic profitability is the key to survival, the Air Force must maintain, through the air base, an operational combat tool. Finally, investments in sustainable development are nothing without the support of the personnel. This is why it is essential to integrate, from the upstream phase of each project, a human dimension in the image of the crew spirit so dear to the godfather of 123 Air Base, Commander Charles Paoli.

This dual operational and human constraint forms the framework that must guide our action in this area.

Title :	le Colonel Luc de RANCOURT
Author (s) :	le Colonel Luc de RANCOURT
Release date	01/06/2018
