Challenges and achievements in animal rabies diagnosis in low-resource countries: the case of West and Central Africa

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Better local diagnostic capabilities and effective surveillance systems are essential not only to demonstrate the burden of the disease in endemic areas, but also to assess the positive outcome of control efforts and to identify residual foci or imported cases as the rabies-free status is gradually achieved. Nevertheless, despite the existence of a reliable and simple diagnostic method, rabies is still highly under-diagnosed and consequently under-reported in endemic areas.

The RESOLAB-AO/AC Rabies Subnetwork was established in December 2010, to assess and improve animal rabies diagnostic capabilities, which has led to disease reporting. The network includes: RESOLAB-Central Africa (Cameroon, the Central African Republic, Chad, the Democratic Republic of Congo, Equatorial Guinea, Gabon, the Republic of Congo and Sao Tome and Principe) and RESOLAB-West Africa (Benin, Bissau Guinea, Burkina Faso, Cape Verde, the Cote d'Ivoire, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal, the Gambia and Togo).
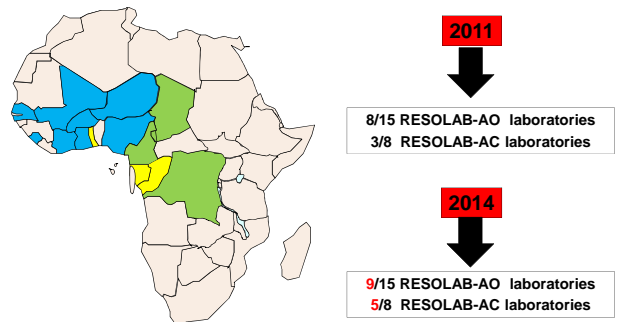
RESOLAB-AO/AC networking
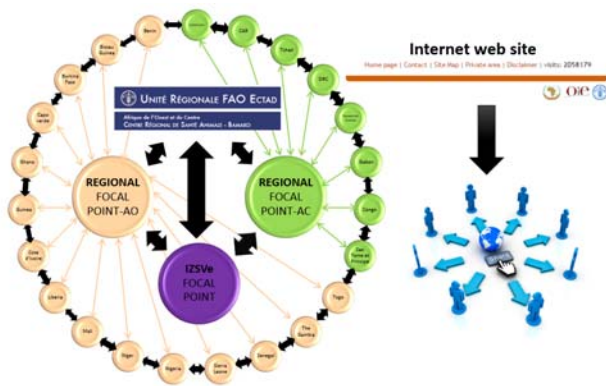
Each RESOLAB-AO/AC member appoints a rabies national focal point. Two regional focal points, from Western and Central Africa, respectively, have been asked to improve communications between them and with the related regional focal point. An IZSVe focal point is also established acting as technical support within the consortium.
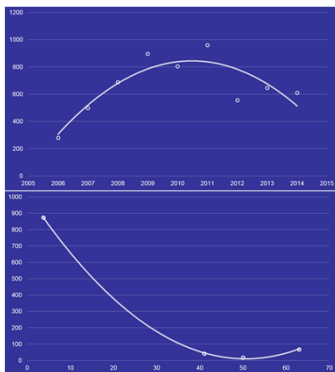Information generated from the RESOLAB-AO/AC Rabies subnetworking are available on line on a dedicated website, so that each member of the network may receive all the information from the region in real time .
http://www.fao-ectad-bamako.org/fr/-Rabies-Sub-Network-

Rabies diagnostic capacity in RESOLAB-AO/AC

Brain samples analyzed between 2006-2014

6,091 brain samples were analysed for rabies between 2006 and 2014 within the consortium. Overall, a positive trend was registered from 2006 to 2011 in the number of samples received per year.
A significant correlation between cost of analysis and number of cases was found.

2011

8/15 RESOLAB-AO laboratories
3/8 RESOLAB-AC laboratories

2014

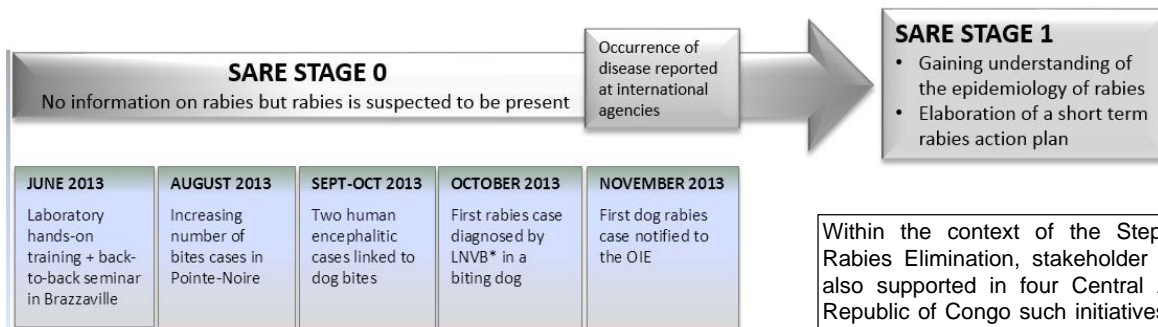**9/15 RESOLAB-AO laboratories**
5/8 RESOLAB-AC laboratories

Rabies diagnostic capacity in RESOLAB-AO (in blue) and in RESOLAB-AC (in green). In yellow the new rabies diagnostic capacity in 2014.

First detection of rabies in Congo: a successful example of Stepwise upgrading towards Rabies Elimination

SARE STAGE 0
No information on rabies but rabies is suspected to be present

Occurrence of disease reported at international agencies

SARE STAGE 1
• Gaining understanding of the epidemiology of rabies
• Elaboration of a short term rabies action plan

JUNE 2013	AUGUST 2013	SEPT-OCT 2013	OCTOBER 2013	NOVEMBER 2013
Laboratory hands-on training + back-to-back seminar in Brazzaville	Increasing number of bites cases in Pointe-Noire	Two human encephalitic cases linked to dog bites	First rabies case diagnosed by LNVB* in a biting dog	First dog rabies case notified to the OIE

Within the context of the Stepwise Approach towards Rabies Elimination, stakeholder consultations have been also supported in four Central African countries. In the Republic of Congo such initiatives have ultimately led to a first laboratory confirmation of a dog rabies case ever in the country.