



The interest of smartphone use for field Fisheries and marine environmental sciences surveys in West Africa; a demonstration project AWAPhone

Patrice BREHMER^{1,3*}, Joern SCHMIDT², Adama MBAYE³, Aliou BA^{1,3,4}, Ousmane DIANKHA⁵, Idriss Lamine BAMY⁶, Osvalidna SILVA⁷, Vitorino NAHADA⁸ Ahmed TALEB⁹, Aka Marcel KOUASI¹⁰, Zacharie SOHOU¹¹, Abdelmalek FARAJ¹² and Massal FALL³

¹Institut de Recherche pour le Développement (IRD), ISRA / Research Centre Dakar - Thiaroye Oceanographic (CRODT), UMR 195 LEMAR, BP 1386 Dakar, Senegal

²University of Kiel (CAU), Christian-Albrechts-Platz 4, Kiel, Germany

³Institut Sénégalais de Recherches agricoles (ISRA), Centre de Recherches Océanographiques de Dakar-Thiaroye (CRODT), BP 2241, Dakar, Sénégal

⁴Université Cheikh Anta Diop, Dakar (UCAD), Institut Universitaire des Pêches and d'Aquaculture (IUPA), Dakar, Senegal

⁵Ministère de l'environnement et du développement durable (MEDD), Direction des Aires Marines Communautaires Protégées, Hann-Dakar, Sénégal

⁶Centre National des Sciences Halieutiques de Bousoura (CNSHB) BP 3738, de Guinée Conakry

⁷INDP, São Vicente, Cova Inglesa CP132 Mindelo, São Vicente, Cabo Verde

⁸Centro de Investigaçao Pesqueira Aplicada (CIPA), Av. Amilcar Cabral. CP 102, Guinea Bissau

⁹Institut Mauritanien de Recherche Océanographique et des Pêches (IMROP), BP 22, Nouadhibou, Mauritanie

¹⁰Centre de Recherches Océanologiques (CRO), BP V18 Abidjan, Côte d'Ivoire

¹¹Benin Institute of Fisheries and Oceanological Research (IRHOB), 03 BP 1665, Cotonou, Benin

¹²Institut National de Recherche Halieutique (INRH), Bd Sidi Abderrahmane 2, Casablanca, Morocco

*Correspondance: Tél: (221) 78 122 16 15; Courriel: Patrice.Brehmer@ird.fr (P. BREHMER)

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Abstract

Data collection in fisheries and environmental sciences all over the world remain often difficult and expensive and particularly in low income countries as it is the case in West Africa. The national fisheries center have a regal mission to collect fisheries data and all other information relative to the marine environment. For such purpose all the fisheries center get numerous agents spread all along the coastline in the main national landing sites. The smartphone now get an impressive processing capacity and thus can do numerous tasks which were before limited to computer users, but also allow mobility in the field. The application developed for smartphone can now be easily developed and even delivered in open access. To take advantage of such technological progress well assimilated in West Africa (smartphone are now usual in West Africa) we have make some trials. The main interest of smartphone appear to be the data



acquisition, monitoring and transfer (*e.g.* ODK application) in near real time particularly for regular fisheries statistics in main landing sites and field interviews. Such method avoid errors during manual data acquisition and allow fast analysis. A side several of information have been collected during the trials as medusa and algal blooms, and stranding of fish or mammal as whales as well as turtle egg-laying but also extreme event as coastal erosion after a storm (*e.g.* ravage application; Cerema). These information/reports take advantage of spatial localization using GPS option. Obviously, fish species identification during data collection could be validated with remote expert and *e.g.* INRH have already developed an application (Guide des poissons du Maroc) for fish identification of main exploited fish species. Moreover, the fisheries center agents can inform on fishing interferences as well as illegal activities. We recommend the equipment of the fisheries agents with the development of regional ad hoc applications and procedures of data collection knowing that numerous others new applications of great interest for fisheries center in West Africa, will be found. Lastly, the smartphone can be associated to physic and chemical sensors to allow to upload and transfer data to the research center data center at low cost, quickly and foster collaborative action with civil society.

Keywords: Data collection, landing sites, monitoring near real time, fisheries statistics, field interviews, medusa and algal blooms, stranding, turtle egg-laying, extreme event, illegal activities, collaborative action.



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EDITED BY:

Patrice BREHMER (IRD-France; Dakar), Babacar BA (CSRP, Sub-Region; Banjul) & Gerd KRAUS (TI, Germany; Hamburg).

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WITH THE COLLABORATION OF:

Bamol Ali SOW , Alban LAZAR, Heino FOCK, Xavier CAPET, Aka Marcel KOUASSI, Idrissa Lamine BAMY, Osvaldina SILVA, Eric MACHU, Vamara KONE, Moustapha DEME, Didier JOUFFRE, Joern SCHIMDT, Modou THIAW, Suzanne TRAORE, Abdoulaye DIOP, Justine DOSSA, Didier JOUFFRE, Ibrahima DIALLO, Arnaud COMOLET, Zacharie SOHOU, Hamet DIADHOU, Célestin BLE, Rafael ALMAR, Moussa SALL, Abou BAMBA, Dano J.A. ROELVINK, Ibrahima LY, Marie BONNIN , Dienaba Beye TRAORE, Adama MBAYE, Hassane Dedah FALL, Mohamed M'barek O. SOUEILIM.

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