

Ph.D. in Climate Change & Water Resources

Water Engineer

Name & Surname : **Djigbo Félicien BADOU**
Date & Place of birth : 29/12/1981 in Dabou (Côte d'Ivoire)
Citizenship : Beninese
Address : BP 2008 Abomey-Calavi (Benin)
Phone : (+229) 97-967-519/ 64-130-385
Email : fdbadou@gmail.com



LINK TO THE MISSION

Dr. Badou has conducted several water supply, and integrated water resources management related projects.

CONSULTATION AND OTHER MISIONS

Since 02/2020: **Climate Change Associate Consultant**

Detailed Climate Risk and Vulnerability Assessments (ERCV) in the following sectors: urban development, infrastructure, energy, forestry, tourism with definition of adaptation measures, and training on climate risk assessment methodologies in Benin/ National Adaptation Plan Project.

Tasks performed:

- Design of impact chains for the assessment of the vulnerability of infrastructure (buildings, roads and bridges) and tourism to climate change in Benin;
- Evaluation of future climate projections (rainfall, maximum and minimum temperatures, wind speed) based on 4 regional climate models for the period 2020-2050 (on going).

Since 06/2018: **Principal Expert in Charge of water usages**

Design of the Ouémé River delta Plan in Benin

Tasks performed:

- Organization and supervision of secondary data collection from Benin Water Directorate and Benin Rural Engineering Directorate and of primary data from lagoon-river transport stakeholders for the Nokoué Lake;
- Mid-term and final reports writing on the current state of consumptive water and non-consumptive water uses in the Ouémé Delta;
- Participation in two national consultation workshops with state and grassroots stakeholders.

[10/2017-06/2019]: **Consultant, inspection team member for the engineering office IGIP-Afrique Bénin**

Dredging, beach nourishment and construction of protective structures works in eastern Cotonou, Phase 2

Tasks performed:

- Supervision of the construction of four groins and of a submersible dyke for the development of a marine lake;
 - Supervision of dredging and beach nourishment works involving 2.5 million m³ of sand on beaches in eastern Cotonou;
 - Supervision of soil clean-up works on the Akpakpa-Dodomè river banks.
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[12/2017-03/2019]: Consultant

Study of Water Resources Vulnerability to Climate Change in Benin
Scientific Support Project to the process of National Adaptation Plans to climate change (PAS-PNA)

Tasks performed:

- Design of 02 impact chains for the assessment of the vulnerability of the Ouémé River Basin population to water scarcity and hydroclimate hazards;
 - Collection of socio-economic data (access to information, monetary poverty index, etc.) for the assessment of the targeted population adaptive capacity;
 - Mid-term and final reports writing on the vulnerability of the Ouémé River Basin population to water scarcity and hydroclimate hazards.
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[02/2012 – 03/2012] : Technical Auditor for the Audit firm FCG

Audit of the management of the Programme of Support to the sectors of Water and Sanitation (PPEA) in the Borgou region

Tasks performed:

- Review of procurement and contract management documents of contracts funded by the PPEA project;
 - Assessment of Water and Sanitation Sections of Communal Development Plans (CDPs);
 - Interviews of local authorities on the implementation of social intermediation;
 - Survey of NGO facilitators in charge of social intermediation.
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[02/2010 – 06/2011]: Assistant Engineer for the construction firm Soletanche – Bachy

Extension of the southern wharf at Cotonou harbour
(670 m of diaphragm walls 30 m deep)

Tasks performed:

- Tides and water table fluctuations monitoring to secure the construction of sheet piling;
- Supervision of the execution of about 100 boreholes and pumping wells to lower the water table for the construction of sheet piling over 600 ml;
- Supervision of the installation and monitoring of a drainage system to lower the “roof” of the water table.

Projects:

- Potable Water Supply Project in Benin secondary cities - Phase 2;
- Drinking water networks relocation for the construction of the roads
Godomey - Akassato and Djougou –N’Dali.

Tasks performed:

- In Charge of the preparation of technical and financial bids;
- Design of drinking water supply networks and facilities.

PUBLICATIONS

Félicien D. Badou, Jean Hounkpè, Yacouba Yira, Moussa Ibrahim, Aymar Y. Bossa (2019). Increasing Devastating Flood Events in West Africa: Who is to Blame? *In Regional Climate Change Series: Floods* WASCAL Publishing DOI: 10.33183/rccs.2019.p84

Jean Hounkpè, Bernd Diekkrüger, **Djigbo F. Badou**, Aymar Y. Bossa, Emmanuel A. Lawin, Julien Adoukpè and Abel A. Afouda (2019). How Does Climate and Land Use Change Influence Flood Hazard in Benin? *In Regional Climate Change Series: Floods* WASCAL Publishing DOI:10.33183/rccs.2019.p44

Sintondji L., **Badou F.**, Ahouansou M., Hounkpe J., Assogba Balle R., Gaba C., Vissin E., 2019. Etude de Vulnérabilité face aux changements climatiques du Secteur Ressources en Eau au Bénin. Report produced under the project “Projet d’Appui Scientifique aux processus de Plans Nationaux d’Adaptation dans les pays francophones les moins avancés d’Afrique subsaharienne”, Climate Analytics gGmbH, Berlin.

Agnidé E. Lawin, Nina R. Hounguè, Chabi A. Biaou and **Djigbo F. Badou** (2019). Statistical Analysis of Recent and Future Rainfall and Temperature Variability in the Mono River Watershed (Benin, Togo). *Climate*, 7, 8. DOI: 10.3390/cli7010008

D. F. Badou, B. Diekkrüger, E. Kapangaziwiri, M. L. Mbaye, Y. Yira, E. A. Lawin, G. T. Oyerinde & A. Afouda (2018a). Modelling blue and green water availability under climate change in the Beninese Part of the Niger River Basin. *Hydrological Processes*. DOI: 10.1002/hyp.13153.

Badou, D.F., Kapangaziwiri, E., Diekkrüger, B., Hounkpè, J. & Afouda, A. A. (2016). Evaluation of recent hydro-climatic changes in four tributaries of the Niger River basin (West Africa). *Hydrological Sciences Journal*, 62(5), 715–728. DOI: 10.1080/02626667.2016.1250898

Hounkpè, J., Diekkrüger, B., **Badou, D.F.**, and Afouda, A.A., (2016). Change in Heavy Rainfall Characteristics over the Ouémé River Basin, Benin Republic, West Africa. . *Climate*, 4 (15), 1–23. DOI: 10.3390/cli4010015

Badou, D. F. (2016). Multi-model evaluation of blue and green water availability under climate change in four non-Sahelian basins of the Niger River basin. Published PhD Thesis. University of Abomey-Calavi. <http://www.wascal-uac.org/new/thesis/DjigboF%C3%A9licienBADOU.pdf>

Badou, D. F., Afouda, A. A., Diekkrüger, B. & Kapangaziwiri. E (2015). Investigation on the 1970s and 1980s droughts in four tributaries of the Niger River basin (West Africa). E-proceedings of the 36th IAHR World Congress, 28 June – 3 July, 2015, The Hague, the Netherlands.
<http://89.31.100.18/~iahrpapers/87455.pdf>

EDUCATION

2016: Ph.D. in Climate Change and Water Resources, University of Abomey-Calavi (Benin)

2008: Master of Science in Water and Environment, International Institute for Water and Environmental Engineering, 2iE (Burkina Faso)

2005: Bachelor degree in Physics, University of Abomey-Calavi, UAC (Benin)

2005: Second Year Degree in Economics, University of Abomey-Calavi, UAC (Benin)

2001: Baccalaureate of Science (A level), Lycée Antoine Gauze de Daloa (Côte d’Ivoire).

OTHER TRAININGS

[09/2014- 03/2015] (7 months) Visiting Ph.D. student at the University of Bonn, Germany
(<https://www.geographie.uni-bonn.de/forschung/arbeitsgruppe-diekkrueger/Members/former-members>)

12/2014: Award for completing with distinction the online course “Climate Change Science & Negotiation” by the Sustainable Development Solutions Network (SDSN) association
(www.edcastcloud.com/verify/86n01VAN)

[11/2012-01/2013] (3 months) Advanced proficiency in English awarded by the University of Cape Coast (Ghana) (englishdepartmentS3@gmail.com)

LANGUAGES

French: fluent in speaking, writing, and listening

English: fluent in speaking, writing, and listening

German: Beginner

COMPUTER SKILLS

Microsoft Office and Linux: Good knowledge

ArcGis, R, Matlab: Good knowledge



Latest update: August 28th, 2020