

# **FRAMEWORK FOR AQUACULTURE DEVELOPMENT ON THE VOLTA LAKE**

## **Implementation Guidelines Document**



**VOLTA  
RIVER  
AUTHORITY**

**APRIL 2017**

## **INTERPRETATIONS:**

In these Guidelines, unless the context otherwise requires:

**Applicant:** Company or individual proposing to operate aquaculture undertaking on the Volta Lake.

**Aquaculture:** Cultivation of aquatic organisms, e.g. fish, shellfish, algae, etc.

**Aquaculture operators:** Developers of aquaculture undertakings on the Volta Lake.

**Environmental Assessment:** The process for the orderly and systematic evaluation of a proposal including its alternatives and objectives and its effect on the environment including the mitigation and management of those effects; the process extends from the initial concept of the proposal through implementation to completion, and where appropriate, decommissioning;

**Environmental Impact Statement:** A document prepared by an applicant to present the case for the assessment of his proposal as part of the environmental impact assessment process;

**Preliminary Environmental Report:** A document containing detailed information other than information contained in the registration form especially detailing the effects, which the undertaking would have on the environment as defined in the screening report.

**Scoping Report:** A report that summarizes the results of a scoping exercise under the Ghana ESIA process.

**Environmental Permit:** An environmental authorisation to commence a proposed undertaking or continue with the undertaking, issued after registration of the undertaking or upon submission of a preliminary environmental report or environmental impact statement;

**Kpong Headpond:** Area of the water reservoir between Akosombo and Kpong Hydropower Dams

**Volta Lake Area:** The area of the water reservoir above the Akosombo dam and its tributaries within Ghana.

**Lower Volta Area:** Area of the water body below the Kpong Hydropower Dam to the estuary at Ada.

**Volta Gorge Protected Area:** Area covering 5,149.24 hectares, stretching from the Akosombo dam wall to about 35 km upstream of the Volta Lake, and extending from the shoreline of the Volta Lake to the summit of the first hills bordering the Lake, and 300 meters off either banks of the Lake in low slope areas.

**Lease:** A written agreement under which VRA shall allow aquaculture developers' access to the Volta Lake for a specified period of time and rent.

**Monitoring Task Force:** A team established by VRA to undertake regular monitoring activities of developmental activities within the Volta Lake Basin on an as-required basis and make recommendations for any required follow up actions based on their findings.

**Focal Point Officers:** Officers appointed from the various implementing VRA departments with the responsibility of coordinating all Environmental, social and health related activities within their respective departments as required under the “*Environmental Management Plan for the Akosombo and Kpong Hydroelectric Plants*”. The Committee of Focal Points Officers meets on a quarterly basis to assess progress of activities within the VRA and ensure timely follow-up on actions in the implementation of the EMP. Recommendations from the committee meetings are submitted to VRA Management for consideration.

Final

## EXECUTIVE SUMMARY

The Volta River Authority (VRA) being mindful of the environmental effects of unsustainable aquaculture developments on its operations has developed a *“Framework for Aquaculture Development on the Volta Lake”* document to ensure strict compliance with all legal and regulatory requirements. This **“Implementation Guidelines Document”** provides general guidance for the implementations of the Framework Document with the guiding principle that aquaculture operators are to enter into a Lease with VRA for effective utilization of the water resource for a sustained hydropower generation.

Within the context of the guidelines, the following is required from the aquaculture developers on the Volta Lake:

- a. Formally request VRA to undertake a site visit to take a decision on the appropriateness of their selected site for aquaculture activities prior to acquisition.
- b. Provide a business concept with site maps for review and acceptance if project site is confirmed to be appropriate for the purpose. This requirement is applicable to only medium/large-scale operators as defined by the EPA.
- c. Upon acceptance of the business concept, undertake geodetic survey to demarcate land areas within VRA’s acquired 280 feet contour. VRA is to undertake the geodetic survey at a fee.
- d. Following the geodetic survey, erect red and white painted 8 ft. pillars (at 25 meters intervals) along the 280 feet contour boundary within the project site.
- e. Execute a **“Water Lease”** with the VRA to guide operations of the project, subject to periodic review based on circumstances. Rental charges shall apply as may be determined. Proponents are to use the executed **“Water Lease”** document as basis of evidence of concluding engagement with the Authority as may be required by state regulators or financing agencies.
- f. Acquire relevant permits from state agencies and make available same to VRA for records. This requirement is applicable to all operators as defined by the EPA.
- g. Make available to the VRA, copies of Annual Environmental Reports, Environmental Management Plans (EMP) and records of environmental monitoring activities for informational purposes.

This Guideline is to be adhered to in conjunction with the under listed documents to ensure full adherence to national requirements for aquaculture developments:

- a. Aquaculture Regulations of Ghana, LI 1968 of 2010.
- b. Technical Guidelines for Sustainable Cage Aquaculture: Water Resources Commission, June 2013.
- c. National Aquaculture Code of Practice & Guidelines: Ministry of Fisheries & Aquaculture Development, 2016.

The **“Implementation Guidelines Document”** will need to be reviewed and updated from time to time at intervals to be determined based on, among others, changes in the corporate structure and authorization levels.

## 1.0 OVERVIEW

- 1.1 The Volta Lake and the hydroelectric dams at Akosombo and Akuse are national assets, which are vital to the economy and therefore must be protected and safeguarded. Act 46 of 1961 is mandated The Volta River Authority (VRA) by to among others provide as far as practicable, facilities and assistance for the development of the Volta Lake as source of fish.
- 1.2 Currently, various aquaculture developments, including on-shore structural infrastructure, are ongoing on the Volta Lake System in Ghana and this must be controlled and monitored to ensure sustainability of aquaculture and fishing operations.
- 1.3 The VRA being mindful of the environmental effects of unsustainable aquaculture developments on its operations has developed a *“Framework for Aquaculture Development on the Volta Lake”* document to ensure strict compliance with all legal and regulatory requirements.
- 1.4 This document provides general guidance for the implementation of the *“Framework for Aquaculture Development on the Volta Lake”* with the guiding principle that aquaculture operators are to enter into a Water Lease with VRA for effective utilization of the water resource for a sustained hydropower generation.
- 1.5 The existence of a valid **“Water Lease”** shall serve as basis of evidence for concluding engagement with VRA as may be required by state regulators or financing agencies.
- 1.6 This **Implementation Guidelines Document** is to be adhered to in conjunction with the under listed national guidelines to ensure full adherence to national requirements.
  - a) Aquaculture Regulations of Ghana, LI 1968 of 2010.
  - b) Technical Guidelines for Sustainable Cage Aquaculture: Water Resources Commission, June 2013”.
  - c) National Aquaculture Code of Practice & Guidelines: Ministry of Fisheries & Aquaculture Development, 2016”.
- 1.5 The **Implementation Guidelines Document** will be reviewed and updated from time to time at intervals to be determined based on, among others, changes in the VRA Corporate structure and authorization levels. Specific adaptations may be necessary to protect the lake and other uses of the lake by the VRA (i.e. Lake Transportation and real estate development).

## **2.0 MODALITIES FOR GRANTING LEASE ON VOLTA LAKE BASIN BY VRA**

**2.1 All applications for lease to undertake aquaculture on the Volta Lake should be addressed to the Chief Executive of the VRA.**

2.1.1 Aquaculture operators on the Volta Lake System in Ghana, comprising of the Main Volta Lake, the Kpong Headpond and the Lower Volta Area, will be classified into four groups as has been classified by the Ghana Environmental Protection Agency:

- a) *Large Scale Operators*: Production capacity of 100 metric tonnes per annum and requiring a full Environmental Impact Assessment (EIA) preparation prior to environmental permitting.
- b) *Medium Scale Operators*: Production capacity between 50-100 metric tonnes per annum and requiring a Preliminary Environmental Report (PER) preparation prior to environmental permitting.
- c) *Small Scale operators*: Production capacity between 10-50 metric tonnes per annum and requiring only environmental screening prior to environmental permitting.
- d) *Minor Scale operators*: Production capacity less than 10 metric tonnes per annum.

2.1.2 All Applicants are to request VRA through the Chief Executive to confirm the appropriateness and suitability of the project site prior to acquisition of land at any site within the Volta Lake System in Ghana.

2.1.3 No Applicant is to commence operations of aquaculture activities within the Volta Lake System in Ghana without express approval from VRA based on a Water Lease, effective March 31<sup>st</sup>, 2017.

**2.2 Applications shall be referred to the Real Estates & Security Department for study and forwarded to E&SDD for review and comments.**

2.2.1 All applications received by the Chief Executive are to be referred to the Directors of the Real Estates & Security Department (RE&SD) as well as the Environment & Sustainable Development Department (E&SDD). In the event that an application is received by any one department, that department shall cause to be delivered, same application to the other department for records purposes

2.2.2 Director, E&SDD shall cause to be undertaken, a site inspection of the area to be acquired to help advise the applicant on its suitability based on land /water use plan of the area.

2.2.3 Director, E&SDD shall coordinate the involvement of a Monitoring Task Force in the site inspection using established criteria to identify the land/water use plan of the

said area. Members of the Task Force should include representatives from the following departments:

- a) *Environment & Sustainable Development Department*
- b) *Real Estates & Security Department*
- c) *Engineering Services Department*
- d) *Hydro Generation Department*

- 2.2.4 Site inspections of project sites are to be undertaken within three (3) weeks of receipt of application and a report on the site inspection submitted within two (2) weeks of the event.
- 2.2.5 Applicants are to note that VRA shall reject any application that shows that land being acquired is within 85 meters (280 feet) above mean sea level as determined by Section 11 (1b) of the Volta River Development Act of 1961, Act 46.
- 2.2.6 No applicant shall be allowed to acquire land within the 1.60 km (1 mile) from the shores of the lake at its maximum fill as determined by Section 27 (2a) of the Volta River Development Act of 1961, Act 46 without explicit approval from the VRA.
- 2.2.7 No applicant shall be allowed to acquire land within the Volta Gorge Protected Area without explicit approval from the VRA. This is because the Volta Gorge is under VRA's reforestation programme and has been declared a VRA protected area, the protection of which is being done in collaboration with the Volta Gorge Landowners Association (VGLA) under a Joint Agreement documents.
- 2.2.8 The "**Riparian Buffer Zone Policy for Managing Fresh Water Bodies in Ghana**", dated June 2013, recommends buffer widths 60 – 90 meters for municipal reservoir shoreline protection buffers and this shall be applied to the entire stretch of the Volta Lake System and Applicants are to adhere to this requirement.
- 2.2.9 As per the National Aquaculture Code of Practice & Guidelines, it is mandatory to maintain 50m as buffer between a hatchery and the shoreline of the 280 feet contour high water mark of the water body and this is to be taken into consideration when assessing the project site.
- 2.2.10 Based on report of the Monitoring Task Force on the land's suitability, Director, E&SDD shall issue a letter through the Chief Executive to the applicant and shall state in the letter that the application:
  - a) *Is objected to due to land / water use conflict of the said selected project area.*
  - b) *Is accepted and that the applicant could proceed to acquire land for the said project.*
  - c) *Based upon acceptance of the project site, aquaculture operators shall be advised to:*
    - *With respect to minor/small scale aquaculture operators, proceed to demarcate land areas within the VRA acquired 280 feet contour.*
    - *With respect to medium /large-scale aquaculture operators, provide a business concept with site maps for review and acceptance, and upon acceptance of the*

*business concept, demarcate land areas within the VRA acquired 280 feet contour.*

- *All survey is to be undertaken by the VRA Geodetic Survey Team at a fee.*
- *Following the geodetic survey, erect red and white painted 8 ft. pillars (at 25 meters intervals) along the 280 feet contour boundary and at all boundary elevations within the project site.*
- *Execute a “Water Lease” with the VRA to guide operations of the project on the water body, which will form the evidence of concluding consultations with VRA as may be required by state regulators or financing agencies.*

2.2.11 All such letters to Applicants should be copied to the following organisations:

- a) Environmental Protection Agency (EPA)
- b) Water Resources Commission (WRC)
- c) Fisheries Commission,
- d) Relevant District Assemblies,
- e) Volta Lake Transport Company (VLTC), and the
- f) Volta Gorge Landowners Association (VGLA), if the project area is within the Volta Gorge.

**2.3 Proponents shall submit a business proposal for VRA’s study to avoid the tendency of proponents encumbering /and/ water for long periods without any activity.**

2.3.1 Based on VRA’s acceptance of selected project site, all large to medium scale operators will be required to submit a business concept paper with site maps to VRA for review through the Chief Executive. Please note that the submission of business concept for review shall not be applicable to minor/small-scale operators.

2.3.2 Director, RE&SD to issue a letter to small and minor scale operators and shall request them to pay the required fees and apply for permit from the EPA, WRC, Fisheries Commission (FC) and respective District Assemblies and submit same to VRA.

2.3.3 All business concept papers should provide information on how the applicant will:

- a) *Undertake future physical developmental activities, with relevant site maps covering the acquired land.*
- b) *Provide training and technology transfer to Ghanaians within five (5) years of operations to enable them engage in similar ventures on their own.*
- c) *Ensure that the rights of fishing communities are protected in the course of the project implementation.*
- d) *Employ within the middle and lower level workforce to Ghanaians as means of job creation.*
- e) *Copies of work permits of directors, if foreigners.*



- 2.3.4 The Chief Executive shall submit all business concept papers made available by the Applicant to the Director, E&SDD for review.
- 2.3.5 Director, E&SDD shall make available the business concept papers with site maps for review by VRA internal stakeholder departments as well as by any relevant external agencies.
- 2.3.6 The Director, E&SDD shall forward all business concept papers with site maps to the Volta Lake Transport Company (VLTC) as well as the Volta Gorge Landowners Association (VGLA), if required, for concurrent review.
- 2.3.7 Following the review of business concept papers from Applicants, the Director, E&SDD may advise proponent to:
- a) *Halt the project based on proposed activities outlined in the business proposal.*
  - b) *Reconsider certain aspect of the business proposal and re-submit for approval.*
  - c) *Business concept is acceptable and proponents are to proceed to engage VRA Geodetic Survey Team to undertake the survey to demarcate land areas within VRA's acquired 280 feet contour. An invoice for the survey shall be made available to Applicants.*
- 2.3.8 Subsequently, Director, E&SDD in consultation with the Director, Engineering Services shall prepare and submit to proponents, an invoice to undertake a geodetic survey for the purpose of demarcating lands within the acquired 280 feet contour.
- 2.3.9 Based on the payment, Director, Engineering Services shall cause to be undertaken, the required geodetic survey and submit 12 copies of such maps, in A3 format to the Director, E&SDD.
- 2.3.10 Director, E&SDD shall, on behalf of the CE, submit six (6) copies of the maps to the proponent and request them:
- a) *To demarcate their lands outside the acquired 280 feet contour with boundary pillars of specifications to be given by VRA, which is usually red and white painted 8 ft. pillars at 25m intervals and at all elevation boundaries.*
  - b) *Enter a Water Lease with the VRA.*

**2.4 VRA shall advise the proponent (when required) on the legal and regulatory framework (when required) of the project and the need for proponent to consult other statutory bodies namely the Environmental Protection Agency, Ministry of Fisheries and Aquaculture Development, Water Resources Commission, Volta Lake Transport Company, District Assemblies as well as Land owners etc.**

- 2.4.1 Given the varying scale and nature of aquaculture operations, the following thresholds are considered by the EPA with respect to aquaculture developments:

No.	Production Capacity (MT per annum)	Level of Environmental Assessment
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No.	Production Capacity (MT per annum)	Level of Environmental Assessment
1.	100 and above	Large – Environmental Impact Assessment
2.	50 - 100	Medium – Preliminary Environmental Assessment
3.	10-50	Small- Screening
4.	<10	Minor

2.4.2 All medium to large scale aquaculture operators are mandated to obtain the following permits prior to operation:

- a) Environmental Permits from the EPA.
- b) Water Use Permit from the WRC.
- c) Production Permit from the Fisheries Commission
- d) Developmental permit from their respective District Assembly.

2.4.3 All proponents are to note that it is an offense under the Environmental Assessment Regulations, LI 1652 to commence project activities without the relevant regulatory permits.

2.4.4 Director, E&SDD shall endeavor at all times to advise and provide guidance to aquaculture operators on steps to acquire such regulatory permits.

**2.5 The proponent shall be required to undertake an Environmental Impact Assessment (EIA) study as may be directed by the EPA and furnish the VRA a copy of any of the following Environmental Reports for comments:**

2.5.1 Per regulatory requirements, Medium to Large scale operators applicants on the Volta System may be required to the prepare the under-listed documentations to the EPA for review for permitting purposes:

- a) Preliminary Environmental Report.
- b) Scoping Report.
- c) Environmental Impact Statement (EIS).

2.5.2 The EPA may provide copies of such environmental documentations to the VRA, as a key stakeholder on the Volta System, for review.

2.5.3 When received, the Director, E&SDD shall make these environmental reports available for VRA internal review

2.5.4 The Director, E&SDD shall forward all draft environmental reports to the VLTC and the VGLA, if required, for concurrent review.

- 2.5.5 Following the review of the draft environmental reports, VRA shall through the Director, E&SDD forward the review comments to the EPA.
- 2.5.6 The Director, E&SDD shall endeavor to make available, all review comments within six (6) weeks of receipt of any environmental report submitted by the EPA.
- 2.5.7 The EPA may make available copies of the Environmental Permit with relevant schedules obtained to the VRA for records.
- 2.5.8 When received, Director, E&SDD shall distribute copies of the Permit to relevant stakeholder departments, including but not limited to the following departments whose staff are part of the Monitoring Task Force:
  - a) Real Estates & Security Department
  - b) Hydro Generation Department
  - c) Engineering Services Department

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### 3.0 IMPLEMENTATION OF VRA LEASES ON VOLTA LAKE

- 3.1 All aquaculture operators existing prior to April 2017 are required to enter into a “**Water Lease**” by October 2017.
- 3.2 Applicants are to note that unless under special circumstances and with very good reason, VRA at any particular time shall lease a maximum of five (5) hectares water surface area to each existing and prospective aquaculture operators. All areas to be leased are to be clearly demarcated with reflective buoys and at adequate distances between farms to avoid spread of diseases as may be determined by the regulators.
- 3.3 No applicant shall be allowed to acquire water surface within the navigational zone of the Volta Lake as determined by the Volta Lake Transport Company or at sensitive installations such as domestic water intake points.
- 3.4 Director, RE&SD in consultation with the Director, Legal Services shall prepare draft Water Lease with the Applicant for review. Basic elements of the Water Lease shall include the following:
- a) All aquaculture operators should have the following as it applies to their projects:
    - Valid Work permits, if developer is an expatriate
    - Valid Environmental Permits from the EPA.
    - Valid Water Use Permit from the WRC.
    - Valid Production Permit from the Fisheries Commission
    - Valid Developmental permit from their respective District Assembly.
  - b) Aquaculture operators making available copies of Annual Environmental Reports and Environmental Management Plans (EMP) and records of monitoring activities as required in the Environmental Permit to the VRA when operation commences.
  - c) Aquaculture operators providing training and technology transfer to a given number of Ghanaians within five (5) years of operations to enable them engage in similar ventures on their own.
  - d) Proponents providing employment within the middle and lower level workforce to Ghanaians as means of job creation.
  - e) Proponents undertaking annual screening for bilharzia infection as well as regular educational programme on Bilharzia prevention and control for all staff working directly at the project sites.
  - f) Proponent to pay rent as determined by the VRA. The rate charge per hectare of water surface shall be determined by the VRA to reflect current conditions.

- g) With prior notice, Proponents granting access to VRA staff for environmental and water quality monitoring purposes or any other purpose as required by VRA.
- h) With prior notice, Proponents granting entry into their facilities by VRA staff in order to assist the VRA in monitoring its environmental activities such as reforestation, prevention of deforestation, siltation and maintenance of good water quality along the Lake especially in the Volta Gorge Protected Area.
- i) The conditions of the Lease will be subject to periodic review based on circumstances but not later than every five (5) years.
- j) Termination clauses.
- k) Conditions of demobilization from site.
- 3.5 Director, RE&SD shall call for a meeting with the Applicant to discuss the Final Draft Agreement for finalization.
- 3.6 When finalized, the Lease document shall be executed by the authorized representative of VRA and witnessed by a representative of the Director, Legal Services Department.
- 3.7 Director, RE&SD shall make available copies of the executed **“Water Lease”** to the Director, E&SDD and the Director, Legal Services Departments.
- 3.8 Director, E&SDD shall forward all relevant documentations to Director, RE&SD for execution of the **“Water Lease”**.
- 3.9 All aquaculture operators are to note that it would be only after the execution of the **“Water Lease”** that VRA shall recognize them as an entity, legally mandated to undertake aquaculture operations on the Volta Lake.
- 3.10 All aquaculture operators are to use the executed **“Water Lease”** document as basis of evidence of concluding engagement with VRA as may be required by state regulators for permitting purposes or by financing agencies.
- 3.11 Director, E&SDD shall as part of its annual work programme, create a forum to meet with aquaculture operators at least once (1) a year to discuss implementation progress as well as issues pertinent to the industry.
- 3.12 Director, E&SDD shall report on activities of aquaculture operators in the Annual Environmental Report, mandated as part of the requirements of the EMP for the Akosombo & Kpong Hydropower Plants to the EPA, and copied to the WRC.
- 3.13 VRA shall not renew any **“Water Lease”** if it is realized that the aquaculture operator applicant has reneged against the conditions of the agreement. Such an event shall occur when:
- a) Proponent fails to pay rent as determined by the VRA for a period of two (2) years.
  - b) If information from the EPA indicates that the proponent does not:
    - Monitor its operations required in the Environment Permit
    - Submit annual reports for two consecutive years
    - Submit EMPs

- c) Proponents resist granting access to VRA staff as required without any lawful cause.
- 3.14 In the event of an Aquaculture Operator renegeing on conditions of the **“Water Lease”**, the Director, RE&SD shall draft a letter stating reasons why the Agreement is being terminated and submit same to the Director, Legal Services for concurrence and onward submission to the Chief Executive for signature.
- 3.15 VRA shall make available copies of the termination notices to the EPA, WRC, respective District Assembly, Fisheries Commission, and the VGLA, if required, or any other agency as may be deemed necessary.
- 3.16 Upon issue of the notice of termination, the aquaculture operator shall be required to demobilize from the project site as stated in the Lease and VRA is to include this requirement in the termination letter.
- 3.17 VRA shall take relevant legal action against any aquaculture operator who fails to demobilize in line with the requirements of the **“Water Lease”**.

APPROVED BY: .....  ..... DATE: 26/4/17 .....

CHIEF EXECUTIVE