

**APPLICATION FOR PARTICIPATION IN:**

**ENHANCED SMALLHOLDER AGRIBUSINESS PROMOTION PROGRAMME**

**(E-SAPP)**

**MATCHING GRANT FACILITY (MGF)**

We wish to apply for assistance from Enhanced Smallholder Agribusiness Promotion Programme (E-SAPP) – Matching Grant Facility. We provide below detailed information about our Organisation and confirm that we met the eligibility criteria and conditions to participate under Window 1.

1. **Profile of Organization**

1. Name and Acronym of Organisation: Big Nsomba Co-Operative Union

Ltd

2. Type of Legal Registration: Co-Operative Society

Registration No: 420200083606 Date: 29th December 2020

3. **Central Business Objective:** To enhance production and productivity of fish by addressing problems such as high cost and inconsistent supply of fish feed and fingerlings and poor marketing system.

4. Headquarters Physical Address: 70 Eucalyptus Av. Luanshya

Email Address: [bignsombacooperativeunion@gmail.com](mailto:bignsombacooperativeunion@gmail.com)

Fax: Tel:

5. Name of Contact Person: Ike Mulenga

Title: Secretary

Address:

E-mail: Land Phone: Mobile Phone: 0977304509

6. Executive / Board Chairman (if applicable):

Name: PerpinohChikumbi

Address: 70 Ecalyptus Avenue, Luanshya

E-mail: [pchikumbi57@gmail.com](mailto:pchikumbi57@gmail.com) Land Phone: N/A Mobile Phone: 0966863630

7. CEO / Manager: Name: to be employed

Address: 70 Eucalyptus Av. Luanshya

E-mail: [pchikumbi57@gmail.com](mailto:pchikumbi57@gmail.com) Land Phone: N/A Mobile Phone: 0966863630

1. **Business Management Capacity, Governance and Financial Status**

1. Business Establishment:

Management Staff: No. 1

Senior Staff: No. 1

Junior Staff: No. 3

Others: Number will be dependent on work load

2. Governance:

Last Board Meeting: Date: 5th January 2021

Last Annual General Meeting: Date: 27th October 2020

Last Audit Report: Date: N/A

3. Financial Status:

Does the enterprise have a bank account? Yes, (ZANACO, Luanshya, Account No:-5783095100114 )

Is the enterprise capable of raising financial or other resources from its owners? Yes

1. **Previous Experience with External Project Financing**

1. Have you received grant financing in the past from any project including SAPP:No

If Yes, How many; Please provide information on it/them

Name of Project: N/A

Years of Assistance: N/A

Amount of Assistance: N/A

Results (Please provide performance – successful/failed operation, reasons for success/failure, did you meet your obligations? if not, why not, what were your experiences and lessons). N/A

2. Have you any collaboration/partnership with smallholder’s farmers/producers/rural agribusiness in the past? If yes, please elaborate and confirm willingness to continue/expand. If no, are you prepared to establish such collaboration? If yes, have you undertaken any consultation to establish collaboration/partnerships, please indicate status.

Yes

The Union is prepared to establish collaborations with any relevant stakeholders in the industry.

The Union will be working in collaboration with the Farming As a Business School (FaaBSs). The FaaBSs were created for easier management for the small holder farmers. The individual smallholder farmers through their cooperatives will be affiliated to the Union. They will be the main beneficiaries of this project. Other potential collaborating partners will include Ministry of Agriculture, Ministry of livestock and fisheries, E-SAPP and the main Chain Store such as Pick N Pay and Shoprite.

1. **Attachments (Copies)**
   * 1. Certificate of Incorporation/ or any other legal Business Registration Certificate
     2. Articles of Association / Constitution.
     3. Any Contract/MOU for collaboration with smallholder farmers/producer Groups, Agro-rural MSME
     4. Executive / Board Resolution permitting seeking of assistance from E-SAPP; MGF.

I confirm that the information is current and correct to the best of my knowledge.

Title of Authorised Representative: Chairman

Name of Authorised Representative: Perpinoh Chikumbi

Passport/ID No. 170695/64/1

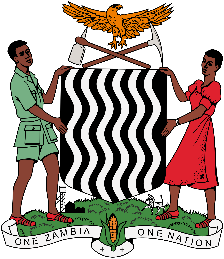
Address: 70 Eucalyptus Avenue, Luanshya, Zambia

Phone No. 0966863630

E-mail: pchikumbi57@gmail.com

Signature:

Date: Day: 20th Month: January Year: 2021



**FULL PROJECT PROPOSAL**

**PROJECT SUMMARY SHEET – Window 1**

1. Name of organization: Big Nsomba Co-Operative Union Ltd
2. Project title: Big Nsomba Fish Feed Production and Out-grower Scheme
3. Project location: Province: Copperbelt District: Luanshya
4. Window under which project is proposed: 1
5. Type of operation:

Agriculture production

Agro-services i.e. input supply, extension, etc

Processing

Marketing/Trade

Warehousing

🗸Others (Please specify) Fish Feed Production

5. Project implementation period (years) 2021/2022

6. Expected Start date: August 2021 Expected Completion Date: July 2022

7. Total cost estimate: ZMW 1,833,333.00.

8. Financing Plan

Request from MGF; ZMW 1,650,000.

Contribution

- In-kind estimate ZMW 183,333.30

- Cash ZMW 0.00

Total contribution ZMW 183,333.30

- Others (please specify) ZMW 0.00

Total financing ZMW: 1,833,333.00.

9. Estimated Net Income ZMW: **37,728,516** (i.e. first year)

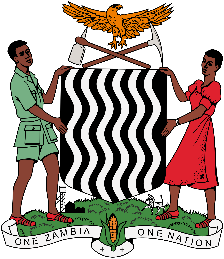
10. Collaborator/Partner: Ministry of Agriculture

Authorized representative: Name: Misheck Jere Title: District Agriculture Coordinator.

Physical Address: P.O. Box 90392, Luanshya Phone No: 0977863687

Signature: Date 8/02/2021

Email: [misheckjere72@gmail.com](mailto:misheckjere72@gmail.com)



**PROPOSAL FOR PARTICIATION IN:**

**ENHANCED SMALLHOLDER AGRIBUSINESS PROMOTION PROGRAMME (E-SAPP)**

**MATCHING GRANT FACILITY (MGF) OPERATION – Window 1**

**FULL PROJECT PROPOSAL (FPP) TEMPLATE**

|  |
| --- |
| **Use of FPP**  The FPP should build on the PCN already approved and provide full details of the proposed project that will enable a decision on whether to provide grant financing under a specified MGF window. Please note that project implementation period should be realistic and not limited to the 2year financing period of MGF. Costs should be fully estimated and not tailored to MGF grant allocation and applicant contribution only. If these sources are inadequate, applicant should seek additional financial support, as necessary, finance can be sought from MGF in two phases as long as the ceiling is not exceeded, and project completion date does not go beyond December 2023.***This template should be fully completed.*** |

**For Official Use Only**

Date of Submission: 28/04/2021 MGF Registration No. …………………………..

1. Proposed Project Title: Big Nsomba Fish Feed Production and Out-grower Scheme

1. Location:

Province: Copperbelt District: Luanshya

1. **Background of Applicant**

Name of Organisation: Big Nsomba Co-Operative UnionLtd

Type of Organisation: Fish Farming Co-operative

Registration No. 420200083606 Date: 29Th December 2020

Organisation Headquarters:

Address: 70 Eucalyptus Avenue, Luanshya

Name of CEO: Perpinoh Chikumbi

Phone No: Perpinoh Chikumbi

Email: pchikumbi57@gmail.com

Name of Chairman of Board: Perpinoh Chikumbi

Phone No: 0966863630 Email: pchikumbi57@gmail.com

**Short Statement of Organisations Operations:**

The main objective of the project is to enhance production and productivity of fish by addressing problems such as high cost and inconsistent supply of fish feed and poor marketing system.

The Union is currently undertaking its operations at Plot 70 Eucalyptus Avenue, Luanshya.

Operational Capacity: The Union is currently at the inception stage.

No. of staff by post; Manager: 1

Production Officer: 1

Accountant: 1

**Financial Capacity:** The union will draw its financial resources through shares and membership fees contributed by its four member cooperatives (FaaBSs) The books of accounts have recently been opened.

**Governanc**e – Date of last Board meeting: 5th January 2021

Date of last Annual General meeting: 27th October 2020

Last Audit report date: N/A (i.e. just starting)

**A brief description of key partners**

**Ministry of Agriculture- Luanshya**

This will provide technical support to the project.

**Ministry of Fisheries and Livestock,**

This will provide technical support to the project

**E-SAPP**

This will provide capacity building and funds to the project

**Pick N Pay- Luanshya**

This will provide market support

**Shoprite- Luanshya**

This will provide market support

**HokasoFaaBSMult-Purpose Cooperative Society**

This will supply fingerings and provide market for our fish feed

4. **Project Background**

Provide an overview of the proposed project, including the main type of activities (production, processing, marketing/trade, services, others (please specify), past experience on the type of activities included in the proposed project, if new, relationships with current operation, what is the project period, when do you plan to start, provide collaboration with other value chain operators or partnership if applicable.

Luanshya district is endowed with a number of streams and wetlands that make it suitable for aquaculture production, as the result of this potential a number of farmers in Luanshya are engaged in fish farming. However, as a Union we have currently identified among the Smallholder farmers, delays in access to quality fingerlings from the current suppliers, high cost and inconsistent supply of fish feeds and a lack of a coordinated market as some of the major challenges. The Union has signed a Memorandum of Understanding (MoU) with another Union that will engage in the production of fingerlings to help in supply of fingerlings to our members whilst Big Nsomba Cooperative Union will engange in fish feed production to supply both our members and our sister union. Fish Feed production will greatly reduce the cost of doing business. The raw materials for feed production especially plant proteins such as soybeans, Lucerne, Leucaenaleucocephala will be supplied by the smallholder farmers. These cash crops will enhance the farmer’s income aside from fish.

The Union will be the major leading body that will coordinate all the major operations among the smallholder farmers. It will organise and facilitate linkages between all the major stakeholders and the smallholders. An out-grower scheme will be undertaken to ensure needs of smallholder farmers continue to be addressed and sustainability of the project.

The proposed fish feed production project will be undertaken in Luanshya district and will include the production of feed, training of fish farmers and marketing of fish. The fish feed production is a start-up project covering over 500 trained member farmers on an out-grower scheme and approximately 10,000 other fish farmers in the catchment cluster covering fish farmers in surrounding districts.

The business will employ a manager with proven experience in fish feed production.

5. **Problem Statement**

The main problem which this project aims to address is high cost of fish feed and inconsistent supply of fish feed among smallholder farmers compounded by delays in access to fingerlings and poor fish marketing system.

6. **Overall Objective**

**6.1** To enhance production and productivity of fish by addressing problems such as high cost and inconsistent supply of fish feed and poor marketing system.

**6.2 Specific Objectives**

* To set-up feed production plan to reduce the cost and improve availability of fish feed among smallholder farmers in Luanshya district and beyond.
* To promote a fish production out-grower scheme among all the 200 member beneficiaries, but implement the programme in such a way that 100 farmers are recruited to the scheme annually within Luasaka camp.
* To improve access to quality fingerlings by our beneficiaries through a memorandum of understanding with Hokaso Cooperative Union whose main activity, is fingerling production. A member will be able to access 3,000 fingerlings for the 20m x 30m pond per cycle.
* To establish marketing system that is consistent and capable of attaining economic prices for fish products through setting up of a market/bulking centre with cold chain and good market linkages.

7. **Project Description, Costs and Financing**

(i) **Project component(s) and activities**

* **Fish Feed Production**: This will involve establishment of fish feed production plant and feed warehouse. This component will help provide a steady supply of fish feed to the beneficiaries at affordable prices.
* **Market Support**:

This will involve establishment of 6 metric tonne per hour fish feed plant, feed warehouse and open slabs. This component will help provide a steady supply of fish feed to the beneficiaries and other smallholder fish farmers at affordable prices.

* **Farmers Support**:

This component will include supporting farmers with fish feed and 3,000 fingerlings per farmer per production cycle. Support will be given to farmers for one pond (600 meter squared) each for fish production. The support will be phased, taking 100 farmers initially and expanding the out-grower scheme annually.

(ii) **Detailed inputs (use the following table)**

**Table 1: Inputs Required** (by Component(s), Activities and Items of Cost):

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | **Quantity of Inputs** | | | |  | | | |
| **Components** | **Activities** | **Items of inputs** | **Unit of Measure** | PY1 | **PY2** | **PY3** | **PY4** | **Total Inputs** | **Unit cost** | **Total Cost** | **Comments** |
| **(list below)** | **(list below)** | **(ZMW)** | **(ZMW)** |
| Component 1: Fish Feed Production | Fish Feed Machinery | 6mt Feed Plant | 1 | 1 | 0 | 0 | 0 | 1 | 250,000.00 | 250,000.00 | The budget will cutter for year I cost of ingredients |
|  | Source Raw Materials | Soya. | 50 Kg | 840 | 1,680 | 2,520 | 3,360 | 8400 | 250.00 | 2,100,000.00 |
|  |  | Fish meal | 50kg | 220 | 440 | 660 | 880 | 2200 | 300.00 | 660,000.00 |
|  |  | Maize meal | 50kg | 790 | 1,580 | 2,370 | 3,160 | 7900 | 150.00 | 1,185,000.00 |
|  |  | Vitamins and Trace Minerals | Lumpsum |  |  |  |  | 1 | 400.00 | 400.00 |
|  |  | Packaging and stiching | Each | 2,000 | 4,000 | 6,000 | 8,000 | 20000 | 2.00 | 40,000.00 |
|  | Factory Construction | Warehouse | Each | 1 | 0 | 0 | 0 | 1 | 400,000.00 | 400,000.00 |
|  |  | Water reticulation system | Each | 1 | 0 | 0 | 0 | 1 | 150,000.00 | 150,000.00 |  |
|  |  | Electrification - 3 Phase | Each | 1 | 0 | 0 | 0 | 1 | 200,000.00 | 200,000.00 |
|  |  | Solar Water Pumps | Each | 1 | 0 | 0 | 0 | 1 | 50,000.00 | 50,000.00 |
|  |  | 10000L Water tank | Each | 1 | 0 | 0 | 0 | 1 | 20,000.00 | 20,000.00 |
|  |  | Bore Hole | Each | 1 | 0 | 0 | 0 | 1 | 30,000.00 | 30,000.00 |
|  | Transportation | 10T Light Truck | Each | 1 | 0 | 0 | 0 | 1 | 300,000.00 | 300,000.00 |
| **Component 1: Total** | | |  |  |  |  |  |  |  | 5,086,458.95 |  |
| Component 2 | 1 farmer support | 1 fingerlings | Each | 300,000 | 600,000 | 600,000 | 600,000 | 2,100,000 | 1.00 | 2,100,000 | 437,333.60 needed |
|  |  |  |  |  |  |  |  |  | For first two cycle |
|  |  |  |  |  |  |  |  |  | 0ne off |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Feed requirement | Each | 2000 | 4,000 | 4,000 | 4,000 | 14,000 | 370.00 | 5,180,000 |  |
|  |  |  |  |  |  |  |  |  |  |
| Existing ponds |  | 100 |  |  |  |  |  | 183,333.30 |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  | Each | 1 |  |  |  |  |  |  |  |
| Each | 1 |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Each | 4 |  |  |  |  | 1 each zone / FaaBS |
| Each | 1 |  |  |  |  |  |
|  |  | --------- | ----- | ------- | --------- |  |
| Component 2: Total | | |  |  |  |  |  |  |  | **7,763,333.30** |  |
| Total Base Cost Estimates | | |  |  |  |  |  |  |  | **12,849,792,25** |  |

***PY*** *– Project Year*

***Note*** *-No of years should be in line with the technology and gestation period of the proposed project. It can be less or more than four years*

(iii) **Detailed cost**

Please estimate the detailed costs by year, component(s), activities and items building on the table above. Also provide under comments any explanation needed to understand the cost estimates e.g. sources of prices used.

Table 2: **Detailed Cost Estimates by Year**

|  |  |  |  |
| --- | --- | --- | --- |
| Cost Estimate (ZMK) | | | |
| **Components** | **Activities**  **(Please name below)** | **Items of Inputs**  **(Please name below)** | **Unit Cost** | **PY1** | **PY2** | **PY3** | **PY4** | **Total Cost** | **Comments** |
| Component 1  Fish Production | 1 fish feed production and fish marketing | 1. Feed Ingredients  A) soya  b) fish meal  c) maize meal  d)Vitamins and Trace Minerals  e) packaging  . Infrastructure  -Electrification  1 Solar Water Pumps  2. Water tank  3 nets (4)  borehole drilling  Fish feed production equipment  (roaster, grinding, mill, mixer,0il expeller and pelleting machine)  -Refrigeration  - Installation  - Transportation/ mobilization  - Electrical materials  - Scale | 250  300  150  Lumpsum  2  50,000  10,000  38,000  35,000 | 210,000  66,000  118,500  40,000      4,000  200,000  8,000  250,000        28,000  11,797.07  15,336.96    44.324.92  1,000 | 420,000  132,000  237,000  80,000  8,000 | 630,000  198,000  355,500  120,000  12,000 | 840,000  264,000  474,000  160,000  16,000 | 2,100,000  660,000  1,185,000  400,000    40,000  200,000  8,000  50,000  10,000  38,000  35,000  250,000      28,000  11,797.07  15,336.96    44.324.92  1,000 |  |
| **Component 1: Total** | |  |  | **996,458.95** | 876,000 | 1,314,000 | 1,752,000 | 5,086,458.95 |  |
| Component 2  farmer support | 1.farmer support | 1 fingerlings  Feed requirements  Existing ponds  ‘’ | 1  370 | 300,000  740,000  **183,333.30** | 600,000  1,480,000 | 600,000  1,480,000 | 600,000  1,480,000 | 2,100,000  5,180,000  **183,333.30** | 100 farmers in year 1  The feed costs will be taken care of by the feed processing plant as the cooperative will supply farmers with feed from the plant on credit terms to members  If operations progress according to plan. It is assumed that individual farmers will be adding a pond to existing ones annually. |
| **Component 2: Total** | |  |  |  |  |  |  | **7,763,333.30** |  |
| Total Base Costs Estimates | |  |  |  |  |  |  | **12,849,792,25** |  |

* + 1. **Financing Plan**

**Table 3: Costs and Financing Plan (ZMK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sources of Financing** | | | | | |
| **Components** | **Activities**  **(Please name below)** | **Items of Cost**  **(Please name below)** | **Total Project Cost (ZMK)** | **Applicant in-kind (ZMK)** | **Applicant in-cash (ZMK)** | **Total Contribution**  **(ZMK)** | **MGF Grant**  **(ZMK)** | **Others (please specify)**  **(ZMK)** | **Total**  **(ZMK)** | **MGF as % of total Financing** |
| Component 1  Feed production and  Market support. | 1construction and procurement of feed ingredients | - Feed Ingredients  - Infrastructure  - Electrification  - Packaging and stitching  Sub total | 434,500  200,000  8,000 |  |  |  | 434, 500  200,000  8,000  4,000  **846,500** |  | **846,500** | 283, 000  **1,003,000** |
| 2 procurement of equipment and operatinalization | -feed production equipment  (Roster, grinding mill, mixer Oil expeller, extruder and pelleting machine)  -refrigeration  - installation  Transportation/ mobilization  Electrical materials  Scale  **Sub Total** | 250,000    28,000  11,797.07  15,336.96  44.324.92  1,000 |  |  |  | 250,000  28,000  11,797.07  15,336.96  44.324.92  1,000  350,458.95 |  | 350,458.95 |  |
| Subtotal Component 1: Total | |  |  |  |  |  |  |  |  |  |
| Component 2  Farmer support | 1 procurement of fingerings, pond construction and fencing | 1 fingerlings  transportation  ‘’pond construction  ‘’  t  Sub Total | 183,333.30 | 183,333.30 |  | 183,333.30  **183,333.30** | 300,000  10,000    **510,000** |  | **510,000** | 10 |
| 2 water installation and procurement of fishing nets | 1 Solar Water Pumps  2. Water tank  3nets (4)  ‘’bohole drilling  ‘’  Sub Total |  |  |  |  | 50,000  10,000  38,000  35,000  143,000 |  |  |  |
| SubtotalComponent 2: Total | |  |  |  |  |  |  |  | 1,407,799.39 |  |
| Total Base Costs Estimates | |  |  |  |  | **183,333.30** | **1,650,000** |  | **1,833,333.30** | **100** |
| TOTAL | |  |  |  |  | **183,333.30** | **1,650,000** |  | **1,833,333.30** |  |

8. **Existing Facilities and Other Resources to Be Made Available in Support of Project Development**

**Table 4: Existing Facilities to be Made Available to The Project**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Facilities (Please Name)** | **Description** | **Quantity** | **Use to be made under the project** | **Estimate Cost**  **ZMW** | **Comments** |
| Land | Hectares | 27 | Construction of the fish feed plant, offices, market centre and other infrastructure developments | 183,333.30 | The Union owns the land |

9. **Expected Outputs and Gross Revenue (Out-turn) from Proposed Project**

**Table 5: Estimated Outputs and Revenue.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Outputs** | **Unit of Measure** | **Quantity** | **Expected Price** | **Expected Gross Revenue/ Turnover** | **Comments** |
| Fish feed  Fish | 25kg  Kg | 128,000  75000 | 350  K45 | K44,800,000  K 3,375,000 | First year estimates |
| Total |  |  |  | K 48,175,000 |  |

10. **Implementation Arrangements**

**Table 5: Staff and Expertise**

|  |  |  |  |
| --- | --- | --- | --- |
| **Main Activities for Implementation** | **Responsibility**  **(State by Title)** | **Experience** | **Comments** |
| 1. Staff  a. Manager  b. Accountant  d, Junior staff  2. Technical Assistance  Department of Fisheries and Livestock  3. Collaborating Partners  a, Ministry of agriculture  b, ministry of fisheries and livestock  c. E-SAPP | Day to day management  Day to day routine tasks/ operations  On-site technical assistance  Technical support  Technical support  Capacity building  And project financing | Minimum diploma in business management or agri-business, preferably 2 years relevant working experience  Minimum technician level in accountancy with at least 1 year minimum work experience  At least grade nine level of education | To be recruited when operations commerce |

11. **Product Market/Marketing**

The fish feed will be produced and stored in the warehouse prior to distribution to the out-grower members as well as the open market. Concessionary conditions to access the feed will only apply to members in the first year. This will enhance the expansion of the out-grower scheme. Fish feed will also be marketed to smallholder producers who are not direct beneficiaries of the project. This potential market has over 10,000 fish farmers to be targeted.

Sales promotions will be done through exhibitions/events such as shows, demonstrations and radio disseminations.

The prospects for the future are very bright as demand for fish feed keeps on increasing in the district and beyond. The Cooperative Union expects to brand its feed.

12. **Expected Direct and Indirect Beneficiaries, and Sources/Type of Benefits.**

**Table 6: Expected Beneficiaries**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Expected Beneficiaries** | **Total No.** | **Women** | **Youth** | **Benefits to beneficiaries** | **Sources** | **Comments** |
| Direct  Indirect | 200  10, 000 | 100 | 60 | * Input support * Markert support * Nutrition * Increased access to other agriculture inputs | Big Nsomba Cooperative   * Fish supply * Agro-dealers | Registered members  Rough estimate for expected consumers  Agro-dealers will establish other supporting enterprises |

13. **Projected Profit and Loss Statement**.

**Table 7: Projected Profit and Loss Statement (ZMW)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **How to calculate** | **PY1** | **PY2** | **PY3** | **PY4** | **Comments** |
| A | Quantity of products (specify unit) 25KG |  | 128,000 | 256,000 | 384,000 | 512,000 | Farmers will increase production by one pond annually  Fish will be purchased from farmers at k35 in the first year and increase by 10% (inflation assumption) in subsequent years.  Salaries indexed to 10% inflation annually |
| B | Price per unit of the product (a. current or b. expected to be achieved when product will be sold) Tick one (a) ……. (b)………. |  | 350 | 385 | 423.50 | 465.50 |
| C | **VALUE OF PRODUCTS** | (C =AXB) | 44,800,000 | 98,560,000 | 162,624,000 | 238,336,000 |
| A2 | Fish |  | 75,000kg | 150,000kg | 225,000kg | 300,000kg |
| B2 |  |  | K45/Kg | 49.5 | 54.45 | 59.90 |
| C2 |  | C2=A2+B2 | 3,375,000 | 7,425,000 | 12,251,250 | 17,970,000 |
| C3 |  | C+C2 |  | **105,985,000** | **174,875,250** | **256,306,000** |
| D | Variable costs |  |  |  |  |  |
|  | Fish purchases |  | 2,625,000 | 5,775,000 | 9,528,750 | 13,975,500 |
|  | Direct material costs/ feed production |  | 438,500 | 876,000 | 1,314,000 | 1,752,000 |
|  | Casual wages |  | 0 | 0 | 0 | 0 |
|  | Transportation costs |  | 54,600 | 109,200 | 163,800 | 218,400 |
| E | Fixed costs (excluding company overhead) |  |  |  |  |  |
|  | Salaries |  | 96,000 | 105,600 | 116,060 | 127,666 |
|  | Electricity |  | 36,000 | 39,600 | 43,560 | 47,916 |
|  | Maintenance |  | 10,000 | 11,000 | 12,100 | 13,310 |
| F | **TOTAL EXPENSES** | (F=D+E) | **3,260,100** | **6,916,400** | **11,178,270** | **16,134,792** |
|  |  |  |  |  |  |  |
| G | **PROFIT BEFORE INTEREST/TAXES** | (G=C-F) | **44,914,900** | **99,068,600** | **163,696,980** | **240,171,208** |
| H | I taxes Please specify | 16% | 7,186,384 | 15,850,976 | 26,191,516.80 | 38,427,393.28 |
| J | **NET PROFIT** | (J=G-H) | **37,728,516** | **83,217,624** | **137,505,463.20** | **201,743,814.72** |
|  | **CUMULATIVE NET PROFIT** |  | **37,728,516** | **83,217,624** | **137,505,463.20** | **201,743,814.72** |  |

14. **Environmental Consideration.**

The cooperative will ensure that environmental concerns are adhered to by employing the following measures:

* Construction: Building permit shall be sought to ensure that all environmental concerns are taken into consideration.
* Pond construction and water rights: The project will work closely with Ministries of Water Development , Fisheries and Livestock and Zambia Environmental Management Agency (ZEMA).
* Adherence to EPB/EIA during clearing of land.
* ZABS standards adherence for fish feed production: factory operations (plastic pallets not wooden)
* The cooperative will adhere regulations and procedures regarding management and disposal of by-products the factory will produce.

15. **Project Risks and Mitigation Measures**

**Table 8: Project Risks and Mitigation Measures**

|  |  |  |
| --- | --- | --- |
| **Expected Risks** | **Consequences of Risk** | **Mitigation Measures Planned** |
| Shortage of raw materials  Thefts  Aflatoxins, Rancidity  Irregular power supply | Reduced production level leading to reduced revenue  loss of produce  Fish loss due to diseases | Contracts  Establish proper security  Compliance to ZABs standards  Install solar power |

16. **Sustainability/Scalability**

In order to enhance sustainability and scalability after the grant financing, the proposed project shall be operated on a profit basis. The project will raise money from two sources, the feed production component and the out-grower. Feed will be sold at profit margin within a competitive environment. We will achieve this by promoting use of plant-based ingredients that can be sourced locally from small scale farmers.

In order to ensure a sustainable market service, the cooperative proposes to purchase fish from beneficiaries at a certain price at K35 / kg and resale at K45. It is assumed that the prices will adjust upwards at 10% annually.

In order to ensure that there is money for expansion the cooperative will have a reinvestment policy of at least 25% of the profits generated.

In order to ensure reliable supply of fish feed, the cooperative union will expand its business by opening outlets at community level for ease access. The Union has signed a memorandum of understanding with Hokaso Multi-Purpose cooperative union for the procurement of fingerlings in order to enhance the smooth operating of the out-grower scheme among its members.

17. Implementation Schedule

Table 9: Detailed Project Implementation Schedule

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activities** | **Project Year 1** | | | | **Project Year 2** | | | | **Project Year 3** | | | |
| **QRT 1** | **QRT 2** | **QRT 3** | **QRT 4** | **QRT 1** | **QRT 2** | **QRT 3** | **QRT 4** | **QRT 1** | **QRT 2** | **QRT 3** | **QRT 4** |
| Land acquisition |  |  |  |  |  |  |  |  |  |  |  |  |
| Procurement of building materials |  |  |  |  |  |  |  |  |  |  |  |  |
| Construction of infrastructure/ water reticulation |  |  |  |  |  |  |  |  |  |  |  |  |
| Procurement of fencing materials |  |  |  |  |  |  |  |  |  |  |  |  |
| Procurement of feed ingredients |  |  |  |  |  |  |  |  |  |  |  |  |
| Procurement of fingerlings |  |  |  |  |  |  |  |  |  |  |  |  |
| Procurement of equipment/ installation |  |  |  |  |  |  |  |  |  |  |  |  |
| Fish/ feed marketing |  |  |  |  |  |  |  |  |  |  |  |  |

18. **Declaration.**

1. I/We the undersigned, the authorised representative(s) of the applicant (name of applicant /enterprise **BIG NSOMBA CO-OPERATIVE UNION LTD**. herewith submit(s) this Full Project Proposal for consideration and eventual financing of resulting project under Window 1 of the E-SAPP Matching Grants Facility.
2. I/We confirm that (name of applicant/enterprise) **BIG NSOMBA CO-OPERATIVE UNION LTD** meets the eligibility criteria and conditions for assistance under the said Window **1**
3. I/We further confirm that we have the resources and capability to implement the proposed project within the stipulated time.

**Authorised Representative(s) of Organisation:**

Name **PERPINOH CHIKUMBIE**

Signature ………………………………………… Date 2**0TH JANUARY 2021**

Title **CHAIRMAN**

Physical Address 7**0 EUCALYPTUS AVENUE, LUANSHYA**

Mobile Phone No: **0966863630** Email **pchikumbi57@gmail.com**

**Authorised Representative of Collaborating Partner (if applicable):**

Name………………………………………………………………………………………

Signature ………………………………………… Date ………………..……………

Title…………………………………………………………………………………………

**NOTES**

**FEED FORMULATION**

High quality formulated feeds will be used to achieve high yields and large sized fish (250-400g) within a short period of time.

The main issue in formulating feed is to meet the protein and essential amino acids (EAAs) requirements of the species. Fishmeal is generally the preferred protein source because of the high quality of the protein and its essential Amino Acids (EAAs) profile. However, fishmeal is generally expensive and is not always available. Thus use of plant protein source will be prioritised.

Tilapia can be fed with a high percentage of plant proteins. Lysine and methionine are the most important essential Amino Acids.

The maximum inclusion level of each feedstuff that can be used in tilapia feeds is dependent on several factors such as the level of dietary protein, how the feedstuff was processed, life stage of the fish, economics, availability, etc.

The ingredients used in the formulation of farm-made tilapia feeds vary regionally. A typical feed formulation for herbivorous fish may include fishmeal, peanut meal, soybean meal, rice bran, broken rice and vitamin/mineral premixes.

Feed additives of various types are included in small amounts in most feeds to perform various functions, such as binders, attractants and preservatives. Least-cost programming is widely used for feed formulation and is dependent upon local available ingredients and the nutritional requirements of the fish.

**Feed Requirement**

|  |  |  |
| --- | --- | --- |
| **Feed** | **Crude Protein** | **Weight in Grams** |
| Fry Mash | 48.8 | 0- 10 |
| Crumble | 40 | 10-60 |
| Grower | 32 | 60-500 |

**Example of Tilapia Feed Ration**

|  |  |  |  |
| --- | --- | --- | --- |
| **Ingredient** | **Fry** | **Fingerlings** | **Grower** |
| Kapenta | 15 | 12 | 8 |
| Blood Meal | 15 | 12 | 8 |
| Full Fat Soya | 20 | 27 | 13 |
| Sunflower Cake |  | 13 | 13 |
| Lucerne | 20 | 10 | 10 |

**TABLE SHOWING MONTHLY FEED CONSUMPTION CHART PER 1000 FISH STOCKED, AT THE DIFFERENT RECOMMENDED FEEDING RATE OF 45 BAGS, 50 BAGS, AND 67 BAGS**

|  |  |  |  |
| --- | --- | --- | --- |
| MONTHS | NO. OF BAGS | | |
| 1ST | 2 | 2 | 2 |
| 2ND | 4 | 4 | 4 |
| 3RD | 6 | 7 | 8 |
| 4TH | 9 | 10 | 13 |
| 5TH | 11 | 12 | 17 |
| 6TH | 13 | 15 | 23 |
| **TOTAL** | **45** | **50** | **67** |

This table explains the feed allocation for every 1000 fish stocked based on a recommended feeding rate of 45 bags ((675kg), 50 bags (750kg), and (67 bags) of feed per 1000 fishes. For example, if you use floating feed and follow the recommended stocking rate and other management parameters, you should be able to harvest a total fish weight of about 675 kg from the 1000 fish stocked and fed with 750 kg of feed. Please note that the average feed conversion ratio for most floating feed is not less than 1kg feed to 900g (0.9kg) fish weight.  You can use this as a basis for determining the performance of the fish. It is wrong to judge the performance of your fish based on the numbers of fishes stocked. It should be based on the quantity of feed they are fed with. This is one of the main reasons why you should have a record of the quantity of feed bought and fed to your fish from stocking to harvest.

**APPLICATION OF THE FEED CONSUMPTION CHART**

The feeding chart will help you to know from the beginning the quantity of feed that is required for the proposed quantity of fishes that you want to stock. Furthermore, it will also help you to know the quantity of feed they will require every month so that you can prepare adequately to replenish your feedstock beforehand. You can plot your feeding chart to reflect the monthly feed requirement for the fishes at a glance.

Another very good aspect of the feed consumption chart is that it can also help you to know in advance the total weight of fish you should expect to harvest, relative to the quantity of feed fed to the fish. Like earlier mentioned, if your stocking rate is right and you follow all other recommended water and

**TABLE SHOWING MONTHLY FEED CONSUMPTION CHART PER 1000 FISH STOCKED, AT THE DIFFERENT RECOMMENDED FEEDING RATE OF 45 BAGS, 50 BAGS, AND 67 BAGS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Months** | **No. Of Bags** | | |
| 1ST | 2 | 2 | 2 |
| 2ND | 4 | 4 | 4 |
| 3RD | 6 | 7 | 8 |
| 4TH | 9 | 10 | 13 |
| 5TH | 11 | 12 | 17 |
| 6TH | 13 | 15 | 23 |
| **TOTAL** | **45** | **50** | **67** |

This table explains the feed allocation for every 1000 catfish stocked based on a recommended feeding rate of 45 bags ((675kg), 50 bags (750kg), and (67 bags) of feed per 1000 fishes. For example, if you use floating feed and follow the recommended stocking rate and other management parameters, you should be able to harvest a total fish weight of about 675 kg from the 1000 fish stocked and fed with 750 kg of feed. Please note that the average feed conversion ratio for most floating feed is not less than 1kg feed to 900g (0.9kg) fish weight.  You can use this as a basis for determining the performance of the fish. It is wrong to judge the performance of your fish based on the numbers of fishes stocked. It should be based on the quantity of feed they are fed with. This is one of the main reasons why you should have a record of the quantity of feed bought and fed to your fish from stocking to harvest.

**APPLICATION OF THE FEED CONSUMPTION CHART**

The feeding chart will help you to know from the beginning the quantity of feed that is required for the proposed quantity of fishes that you want to stock. Furthermore, it will also help you to know the quantity of feed they will require every month so that you can prepare adequately to replenish your feedstock beforehand. You can plot your feeding chart to reflect the monthly feed requirement for the fishes at a glance.

Another very good aspect of the feed consumption chart is that it can also help you to know in advance the total weight of fish you should expect to harvest, relative to the quantity of feed fed to the fish. Like earlier mentioned, if your stocking rate is right and you follow all other recommended water and

**Table 2: The plant-based diet composition**

|  |  |
| --- | --- |
| **Ingredients diets (plant group)** | **Amount (%)** |
| Soybean meal | 42 |
| Fish meal | 11 |
| Shrimp meal | 10 |
| wheat meal | 29.5 |
| Fish oil | 2 |
| Gluten | 2 |
| Soy lecithin | 1.5 |
| Vitamin supplements | 0.5 |
| Mineral supplements | 0.5 |
| Connective | 1 |
| Total (%) | 100 |