

Request for Quotation

RFQ NUMBER:	API01REQ004388
CLOSING DATE:	Date: 19-September-2025 Time: 10:00
DESCRIPTION	RFQ FOR EXPANDABLE/SCALABLE AQUAPONICS SYSTEMS WITH SOLAR HEATING
ADDRESS	API - Animal Nutrition and Products ARC-AP Old Olifant Road PRETORIA
ENQUIRY	Name: Matete Mahlaela Supply Chain Management Email: MahlaelaM@arc.agric.za
COMPULSORY SITE BRIEFING	N/A
Technical Related Enquiries	Name: Dr Mary-Jane Thaela-Chimuka Tel: 012 672 9316

Research Consumable:

1. You are kindly requested to submit a written quotation to the Agricultural Research Council as per below or attached terms of reference (TOR).

Description	Quantity	Unit of Measure
Expandable/scalable aquaponics systems with solar heating	2	EA

2. Essential Administrative Requirements:

- 2.1. Only bidders registered on the Central Supplier Database (CSD) will be considered. Bidders shall include the CSD registration number and full CSD report with the bid proposal.
- 2.2. Only bidders that claim specific goals will be considered for scoring on the 20 points as per the 80/20 principle.
- 2.3. Completed and signed Standard Bidding Documents (SBD) forms included in the bid document.
- 2.4. Submission should be sent to MahlaelaM@arc.agric.za
3. The above specified goods/services should be delivered / rendered to the ARC- Institute at above-mentioned delivery address.
4. The particulars of the guarantee that will apply to the goods quoted for, with the particular regards to the period and extent of the warranty must be clearly stated. Where services are required, service providers must submit documentation pertaining the relevant experience.
5. Your written quotation must be emailed depending on the instructions given in the email or advert .
6. All price quotations that have a rand value of R 2,000.00 to below R 50,000,000.00, including VAT, will be evaluated by applying the 80/20 principle as prescribed by the Preferential Procurement Policy Framework Act 5 of 2022 and its Regulations.
7. The lowest acceptable price will score 80 points, Specific goals for the tender and points claimed are indicate per the table below:

Specific Goals	Percentage Ownership (1%)	Points (20)	Ponts (10)
Ownership by HDIs	51%+	6	3
Ownership by Women	51%+	4	2
Ownership by Youth	51%+	4	2
Ownership by PwD	51%+	2	1
BEE Status	Level 1 - 4	2	1
RDP Goals	Promotion of SMMEs	2	1
TOTAL POINTS		20	10

8. Standard conditions:

8.1 The validity of the quotations must be indicated.

8.2 Prices quoted should be in South African Rand and inclusive of VAT costs such as delivery, insurance, taxes, etc.

8.3 No price adjustments or amendment of the delivery particulars contained in paragraph 8.2 will be considered by the ARC.

8.4 The supplier accepts full responsibility for the proper execution and fulfilment of the goods/services quoted for.

8.5 ARC reserves the right to accept or reject any special terms and conditions that may qualify the goods/services to be provided.

8.6 Quotes should be submitted on an official letterhead and duly signed .

8.7 Goods and services should be supplied / rendered upon receipt of a purchase order from the ARC.

8.8 The General Conditions of Contract issued by National Treasury are applicable .

8.9 The ARC supply chain management code of conduct is applicable .

8.10 Standard Bidding Documents (SBD) forms must be signed and returned together with the quotation. Failure to comply may result to disqualification of your quotation.

8.11 Your quotation must indicate the delivery date.

8.12 The ARC reserve the right to do due diligence on the quotations.

8.13 The ARC reserves the right to benchmark prices quoted.

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 To be completed by the organ of state

(delete whichever is not applicable for this tender).

- a) The applicable preference point system for this tender is the **90/10** preference point system.
- b) The applicable preference point system for this tender is the **80/20** preference point system.
- c) Either the **90/10 or 80/20 preference point system** will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

Price; and
Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

- Ps = Points scored for price of tender under consideration
- Pt = Price of tender under consideration
- Pmax = Price of highest acceptable tender

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

- 1.1 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.
- 1.2 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income -generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20

or

90/10

$$Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right) \text{ or } Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$$

Where

Ps = Points scored for price of tender under consideration
Pt = Price of tender under consideration
Pmin = Price of lowest acceptable tender

3.1. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.1.1. POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

$$Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right) \text{ or } Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)$$

3. POINTS AWARDED FOR SPECIFIC GOALS

3.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

3.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of-

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.)

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

Specific goals	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Percentage (%) Ownership by HDI's		Points (6)		
51% and above		6		
Below 51%				
Percentage (%) Ownership by Women		Points (4)		
51% and above		4		
Below 51%				
Percentage (%) Ownership by Youth		Points (4)		
51% and above		4		
Below 51%				
Percentage (%) Ownership by PwD		Points (2)		
51% and above		2		
Below 51%				
RDP Goals		Points (2)		
Promotion of SMMEs		2		
BEE Status		Points (2)		
Level 1-4		2		

DECLARATION WITH REGARD TO COMPANY/FIRM

- 3.1. Name of company/firm.....
- 3.2. Company registration number:
- 3.3. TYPE OF COMPANY/ FIRM

☐ Partnership/Joint Venture / Consortium
☐ One-person business/sole propriety
☐ Close corporation
☐ Public Company
☐ Personal Liability Company
☐ (Pty) Limited
☐ Non-Profit Company
☐ State Owned Company
[Tick applicable box]

3.4. I, the undersigned, who is duly authorised to do so on behalf of the company /firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have -
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution, if deemed necessary.

SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise,
employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

1. the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

Full Name	Identity Number	Name of State institution

2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:
.....
.....

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:
.....
.....

3 DECLARATION

I, the undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation , communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid , bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE

2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by

2 Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder



SPECIFICATION

ARC EXPANDABLE/SCALABLE AQUAPONICS SYSTEMS WITH SOLAR HEATING (FIVE UNITS).

SUMMARISE THE SCOPE AND COSTING OF YOUR BID USING THE TABLE PROVIDED HERE AND BELOW:

TABLE 1. SPECIFICATION FOR ONE UNIT

OBJECTIVE	Units	PRICE (RANDS)
1. ROOF (REPLACE OR REPAIR)	1	9 095,74
1.1. Poly Galv (Zincalume) Dam 3400l Expandable, Inner lining overhang for 2 x expansion rings	1	8 607.61
1.2. Inner Drain for Bottom exit Dam, and skimmer,	1	1 482.21
1.3. Combination Filter, Swirl, Mechanical and Biofilter (36kg Tilapia/ 200 Combination plants, Fruiting, leafy and herbs	1	6 619.05
1.4. Flood and drain rafts, Free standing flood and drain rafts 2,5x 1,2 all included Grow medium and Flow control and Holding frame,	1	7 333.02
1.5. Grow Rafts DWC 3,7 x1,5 (6 sheets 192 plants)	1	3 439.44
1.6. Return Piping Per Set Inc 3500L low energy pump	1	5 110.84
1.7. Grow medium Narrow Rafts, Polystyrene pots and Leca 8.1x1.25m	6	833.20

1.8. Tunnel 10x3m Fish 1/2 Plastic Plant 1/2 net	1	17 674.33
1.9. Heating Solar Pipe system	1	9 544.11
1.10. 800W Solar system	1	16 297.48
1.11. Smart automation Temp, power monitor and Camera	1	13 373.37
2. INSTILATION		
2.1. SELF INSTAL Manual	1	Added Value

NOTE: SYSTEM REQUIREMENTS

Poly Gav Dam. (Zincalume)

The dam is constructed of Poly Galv sheeting transportable in flat section, these sections are bolted together to form the outer ring of the dam.

A 550g polyester reinforced PVC liner is to be pre-manufactured to fit the dam, with an overhang of 150cm to allow for the future expansion rings.

A bottom side exit shall be installed with an inner outlet pipe spanning the length of the dam. The sides of the outlet pipes shall have a slot on either side halfway to the centre point. These slots are to be cut as low as possible to ensure the waste can enter the pipe slot. A valve shall be installed on the outer side of the tank leading to the filter system.

The centre point has a 110mm T piece allowing for a stand pipe which will stand vertically with a stand pipe to the water level. It should have a T piece at the top end to which a slotted skimmer pipe is connected leading to the side of the tank creating an outlet, overflow and a shimmer.

An airlift set at the height of the dam with two 110mm elbows, one at the bottom and one at the top end to create water movement and aeration for the fish. This uses a shared pump with the biofilter.

The tank shall have an outlet at water height level leading to the outer side of the main bottom outlet valve.

The flow of water shall be directed towards the 3 bay filter. Entry to the first section (Swirl Filter) should have two inlets to ensure flow even should a blockage occur. The first bay thus contains a swirl bucket with an outlet to rinse the large pieces of the fish waste captured.

The section then overflows via two outlets to the second filter bay. This bay is the mechanical filtration section where the inlet pipes leading from the swirl filter are to allow water flow from the bottom to the top through TBX filter material. This the overflows entering the third bay at the lower end which houses the biomedica form the nitrification process.

The Biofilter should also be fitted with a diffuser shared via a single aeration pump with the Dam.

The exit from the biofilter has two outlets, one leading to the raft (Deep water culture) and the other to the flood and drain stone based system.

The water enters the flood and drain system via a control valve. The flood and drain cycle is defined by the elbow pipe that shall be installed at the outlet. This water then enters the DWC at its end point.

The other outlet from the biofilter feeds the DWC waterfall pipe from its centre. This pipe stands 600mm above the side of the DWC Raft. The 50mm inlet waterfall pipe has holes along the length allowing for water to pour into the raft creating a waterfall effect creating oxygen from the plants.

The DWC raft is constructed of a metal frame 3.7mx 1.5m wide. The inlet side is 600mm high with the other three sides 400mm deep. The raft is lined with a 550g polyester reinforced PVC liner.

The return 3500l / hour pump is placed in the raft closest to the dam. The water is pumped from the raft to the dam and enters parallel to the side of the dam in a clockwise direction.

A heating system is to be installed as follows:

The water pump, pumps water as is in the system from a DWC raft to the Fish Dam. The entry to the fish tank is split allowing for water to flow from the DWC to piping which is installed on the roof of the tunnel or other area where full sun light is maximized. The flow to the (4 pipes installed on the tunnel roof) is controlled via manual control valves. The inflow to the Fish tank is also controlled via the same type of valve to equalize the flow both to the Fish Tank and the heating pipes. A relief valve is installed to control overpressure when the solenoid valves are closed.

The water pump thus pumps the water into the four heating pipes and returns additional water to the Fish Tank.

The heating pipes are filled and controlled via the solenoid valves set close to the outlet at the Fish Tank. These valves are initially closed. A setting on the controller allows for this. Should the pressure build up too much the relief valve will open and allow for the water to flow into the Fish Tank. This only usually happens during setup BUT is a function of the system during the night when the valves should NOT be open.

The night mode it in a closed mode not allowing water to flow through the heating pipes else it then functions as a cooling system.

A multi program Controller such as rain bird or such allows for the valves to be opened and closed throughout the day with up to 12 settings per valve.

Thus then allows for 12x4 (the 4 being the 4 solenoid valves) warm water releases pre day/cycle.

This timing during setup is dependent on the length of the heating pipe and thus the time it takes for the water to be heated up enough in the individual pipe before release. The geographical area is an important factor.

To set this up takes some time and patience mainly because the time to heat. Using one heating line as an example.

The pipe is filled and the valve is shut. It could take 30-45min to heat the water adequately before release. The programming of the holding time and release time (max 3min) is dependent thereupon.

By utilising 4 heating pipes the system will then allow for holding (heating) time for pipe 1, then 2, 3 and 4. As programmed pipe one will be released and the other in succession whilst the sequence of filling the pipes also happens simultaneously,

There can thus be 48 Water drops per cycle. This should only happen during the day starting at around 09h30 allowing for the water that was retained in the pipe over night to heat up. The final drop should be set for about 16h00.

The temperature probe and controller is optional just to ensure the system is switched off automatically protecting the overheating of the water.

Below is a schematic of the heating system,

