



**THE UNIVERSITY OF ZAMBIA
SCHOOL OF AGRICULTURAL SCIENCES**

**AGA 4531 ASSIGNMENT 1
INTRODUCTION TO AQUACULTURE**

Date 27 March 2024

Due date: 20 April 2024

Instructions: Answer all questions. Each question carries 20 marks. Question 2 has a table attached to it. Use clear handwriting

Question 1

Describe three ways of classifying aquaculture in Zambia and give examples **(20 marks)**

Question 2

Design and sketch a fish pond with water surface length of Length (d)..... and Width (e).....and a dyke slope (Check the table below). Other assumptions are as follows bottom slope (1%), free board 30 cm, dyke top width 1m **(20 marks)**

Question 3

A Chinese investor plans to establish a large fish farming project in Eastern Province with an annual output of over 100 tons of fish. As an aquaculture consultant, provide an assessment of the feasibility of this project **(20 marks)**.

Question 4

Aquaculture has grown rapidly in Zambia and as intensity increases, so will fish diseases and environmental impact. As a technocrat in the Ministry of Livestock and Fisheries, explain what actions should be put in place to mitigate against possible future environmental impact of aquaculture. **(20 marks)**

Question 5

A massive mortality of fish in cages happened on Lake Kariba in Siavonga District recently. The fish farmer was taken by surprise since everything seemed to be fine. The farmer sent the picture below of the incident to you as an aquaculture expert.

- Looking at this picture of the cages, can you see anything wrong? explain (5 marks)
- What do you think could have caused the fish kill? Give two possibilities (5 marks)
- Given such an experience, would you advise other farmers to invest in cage fish farming? explain (5 marks)
- Briefly describe the environmental impact of cage culture (5 marks)



Question 2 table

a = Water depth at shallow end, **b** = total pond depth at the deep end, **d** = Water surface length, **e** = Water surface width

AGA 4531 STUDENT LIST

SNO	NAME	COMPUTER NUMBER	POND CHARACTERISTICS				
			d(m)	e (m)	b (m)	a (m)	Dyke slope
1	SEKELANI DAKA	2020075736	20	30	1.2	0.8	1:1
2	VERNON CHEWE KUNDA	2020015528	20	30	1.5	0.8	2:1
3	CHARLES JERE	2020781875	20	35	1.5	0.8	1:1
4	JOSEPH KUCHAYA	2020015536	25	30	1.5	0.8	1:1
5	SENSITANO SIWALE	2020017393	20	30	1.2	1.0	1:1
6	JIMMY ZOZI	2020004046	30	50	1.2	1.0	1:1
7	GRACE SIANGA	2020029065	30	50	1.5	1.0	1:1
8	PRECIOUS KAWIMBE	2020207519	30	50	1.1	0.6	1:1
9	NGULUBE SHELENGANS	2020024934	30	50	1.1	0.6	2:1

10	THERESA NKONDE	2020034417	30	50	1.4	0.6	2:1
11	CHRISTOPHER MUTINTA	2020011549	30	60	1.2	1.0	1:1
12	MWANAWAMBWA KWALEYELA	2020022885	30	60	1.5	1.2	2:1
13	CHARLES MUTEMASAKA	2020029171	30	65	1.5	1.3	1:1
14	MALAMA ANDY	2020015731	30	60	1.5	1.3	1:1
15	NG'ANDU BORN	2020007622	30	60	1.2	1.0	2:1
16	MUZUNDU JANET	2020056852	30	65	1.2	1.0	1:1
17	PHILADEPHIA KAMBEU	2020000407	35	60	1.5	1.0	1:1
18	ZULU YAMIKANI	2020050706	38	60	1.1	0.9	1:1
19	MUKUKA JEMIMAH	2020056682	38	60	1.1	0.9	2:1
20	ISAAC LUKONDE	2020050919	38	60	1.4	1.0	2:1
21	MAZUBA MANYANGA	2021448398	38	60	1.2	0.9	1:1
22	EMLYNE ZULU	2020012138	38	60	1.5	0.8	2:1
23	NACHIZYA DEBORA	2020005492	33	60	1.2	0.8	1:1
24	KHATAI JUSTON SIMUKONDA	2021447791	33	60	1.5	0.8	2:1
25	ADRIS LENGE	2020776162	33	65	1.5	0.8	1:1
26	MWILA PURITY	2020964996	33	60	1.5	1.0	1:1
27	ALICE NTOSHYA	2020067676	33	60	1.4	1.0	2:1
28	FERICHEL CHIPOLYONGA	2020081321	33	65	1.2	1.0	2:1
29	MUKANSHI DERRICK	2020023903	38	60	1.5	0.6	1:1
30	ANNA MAKWAKWA	2020012006	38	60	1.7	0.6	1:1
31	ALEX ZULU	2020020734	38	60	1.7	0.6	2:1
32	CHAMA SHEPHERD	2020959828	38	60	1.4	1.0	2:1
33	ELIZABETH CHANDA	2020046369	40	60	1.6	1.2	2:1
34	MWENYA MARY	2020024152	40	60	1.5	1.3	2:1
35	LUKUNDO NANKONDE	2020991888	40	60	1.4	1.3	3:1
36	MUTAFELA MUYUNDA	2020018357	40	60	1.5	1.0	2:1
37	SHARON NYIMBILI	2019067641	40	56	1.6	1.0	3:1
38	DAKA ERICK	2020012081	40	60	1.5	1.0	2:1
39	GIVEN SOKO	2020018471	40	60	1.6	0.9	3:1
40	NYONI NANCY	2020020815	40	60	1.5	0.9	3:1
41	ASEDY MWALE	2020003759	40	58	1.5	1.0	3:1
42	MAMBWE EDONIE	2020005875	10	20	1.2	0.9	2:1
43	RABECCA LIUWA	2020205473	10	20	1.2	0.8	2:1
44	MATTHEWS LUWEYI	2020057620	10	20	1	0.7	1:1
45	THADDEUS MUKUMA	2019056569	10	20	1	0.5	1:1

(If any of you have similar pond characteristics and if any student is not on this class list, let me know ASAP, 097655177)