

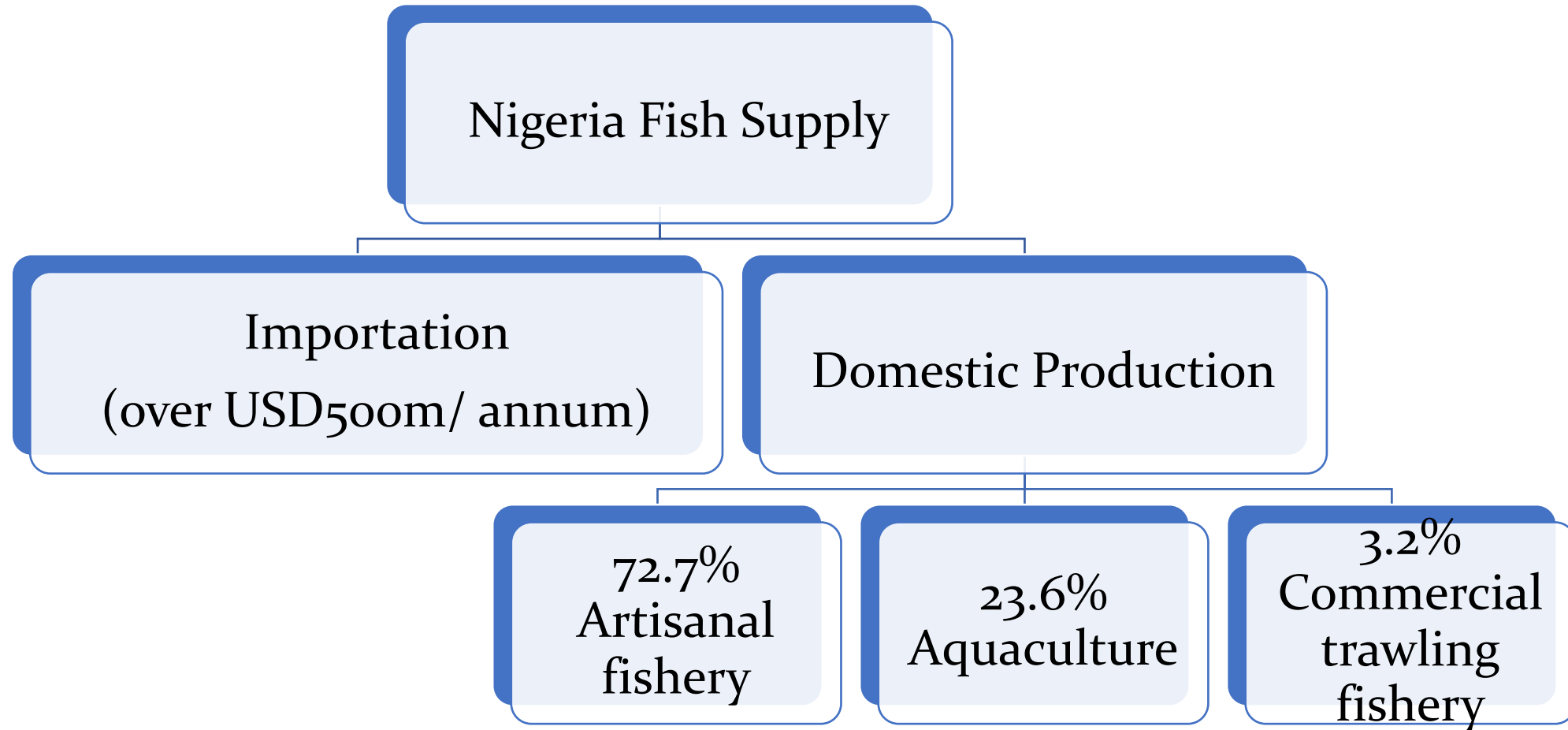
Occupational Safety in Nigeria

Aquaculture Industry

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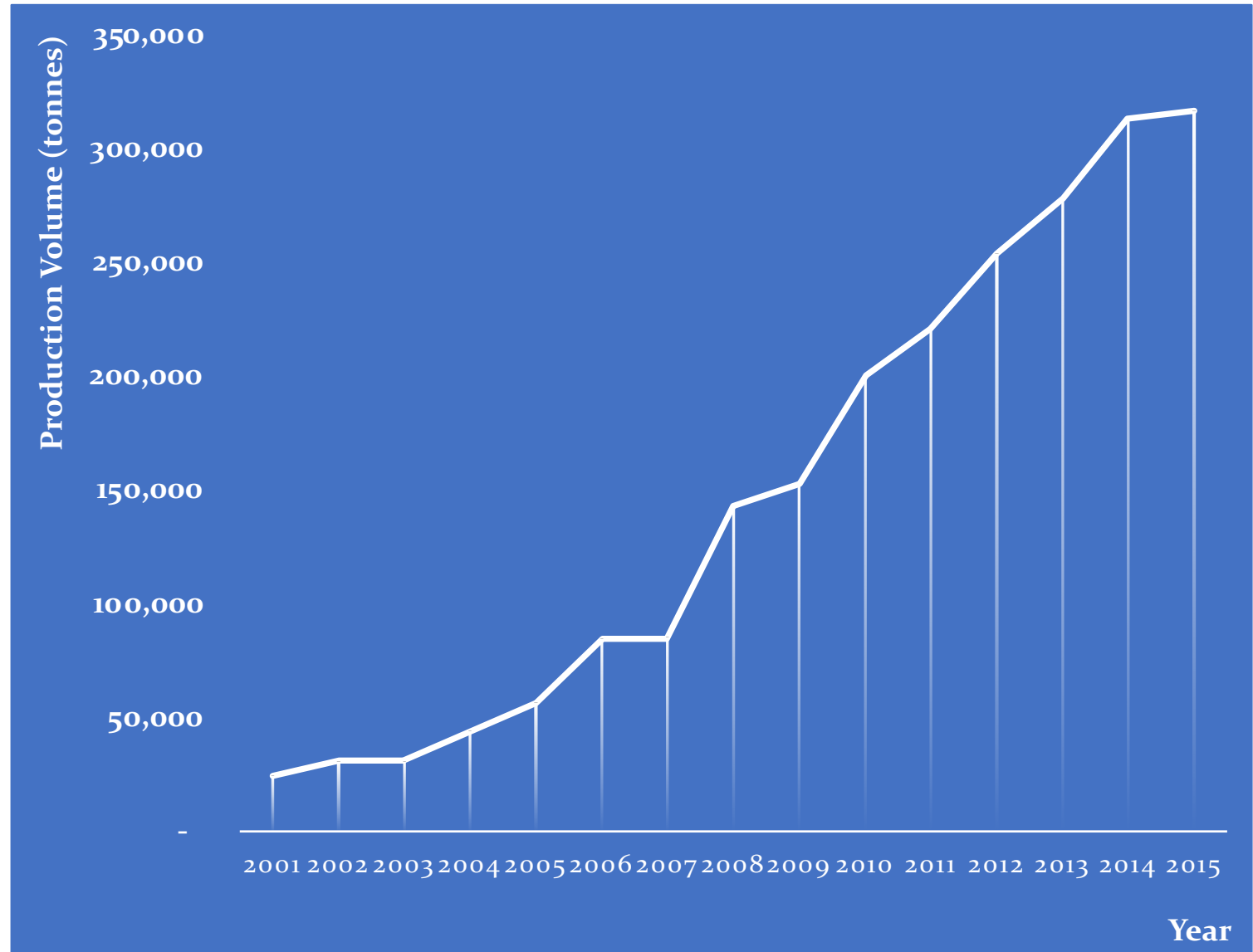


Nigeria fish supply...



Nigeria aquaculture...

- Started in 1951
- Source of income, employment & food supply
- Now 2nd largest producer (in volume and value) in Africa & largest in SSA
- A freshwater-based production with an established African catfish industry (80% of aquaculture spp.)



Source: Holmyard (2015) & FAO (2017)

Study background and objectives...

Rationales for the study;

- Poor quality inputs;
 - Seeds
 - Feeds
- Poor cultivation practices,
- Limited information/ extension services

Study objective;

- To develop information repository of aquaculture operators,
- Characterise the aquaculture operators based on;
 - Type of operation
 - Scale of operation

Study method and approach...

- Complete enumeration...
- Personal interview using structured questionnaire...
- Purposive sampling;
 - Sample size was calculated using;

$$n = \frac{Nz^2p(1 - p)}{Nd^2 + z^2p(1 - p)}$$

- Where:
 - n = sample size
 - N = population (same as sample frame)
 - z = confidence level (95%, z = 1.96)
 - p = estimated population proportion (0.5)
 - d = error limit of 5% (0.05)

Catfish industry operators...

- 5,103 catfish operators were enumerated
 - 2,311 hatchers and farmers in Lagos State
 - 2,792 hatchers and farmers in Ogun State
- 911 were sampled as **representative of the industry** as against the minimum of 415 operators,
 - 532 operators in Lagos State
 - 379 operators in Ogun State

Classification of catfish industry operators...

	Catfish Hatchery	Catfish Table-size
Small scale	$\leq 100,000$ catfish seeds/ annum	≤ 4 tonnes table-size catfish/ annum
Medium scale	100,001 – 500,000 catfish seeds/ annum	4.001 – 20 tonnes table- size catfish/ annum
Large scale	$> 500,000$ catfish seeds/ annum	> 20 tonnes table-size catfish/ annum

Lagos State catfish industry operators...

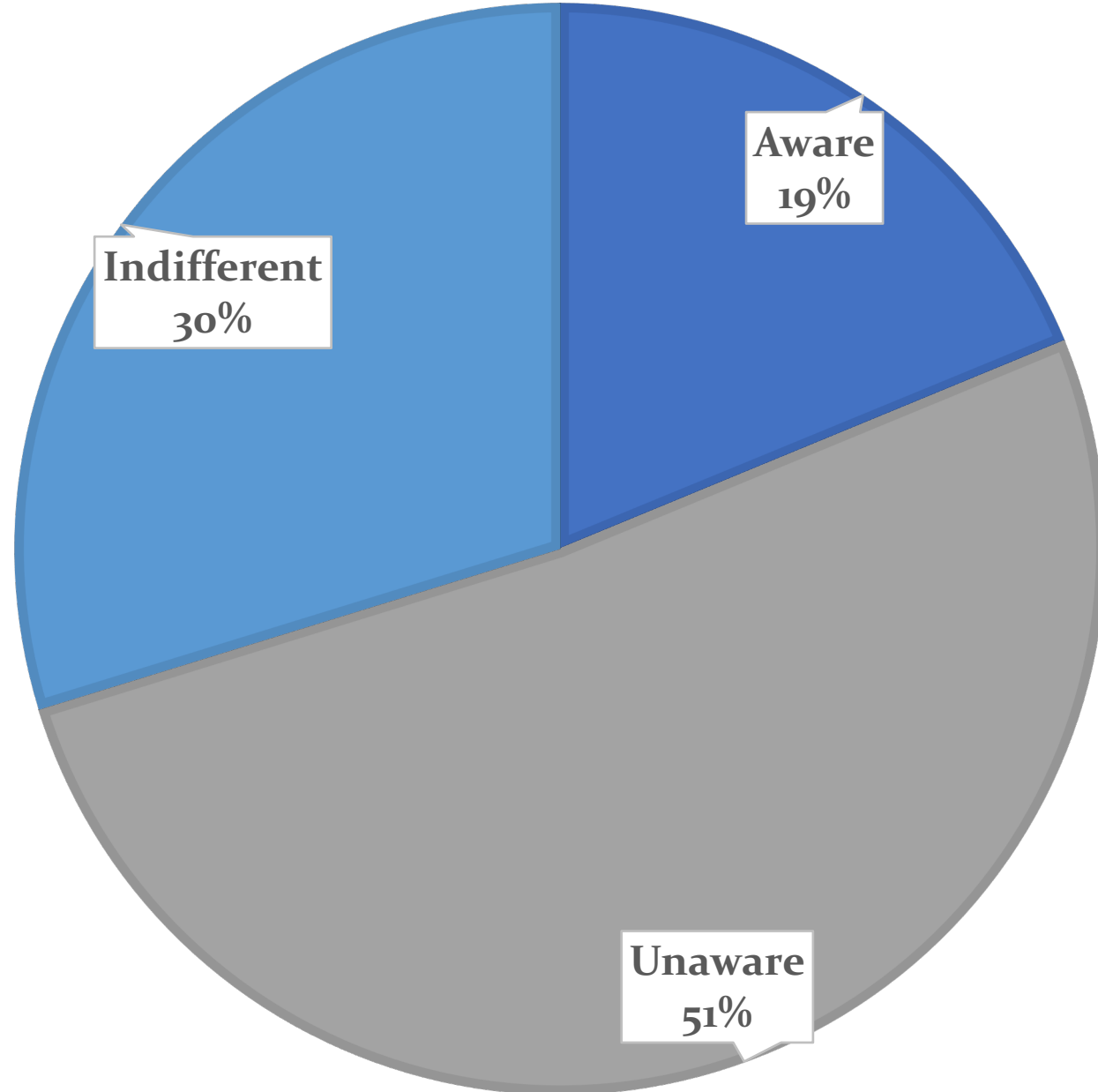
	Large scale (%)		Medium scale (%)		Small Scale (%)		Total (%)	
	Hatchers	Farmers	Hatchers	Farmers	Hatchers	Farmers	Hatchers	Farmers
Male	30.08	30.95	37.40	30.95	21.14	20.09	88.62	81.99
Female	4.07	6.23	1.63	7.62	5.68	4.16	11.38	18.01
Total	34.15	37.18	39.03	38.57	26.83	24.25	100.00	100.00

Ogun State catfish industry operators...

	Large scale (%)		Medium scale (%)		Small Scale (%)		Total (%)	
	Hatche rs	Farme rs	Hatche rs	Farme rs	Hatche rs	Farme rs	Hatche rs	Farme rs
Male	26.24	24.18	35.46	45.67	33.33	22.69	95.03	92.54
Female	0.71	1.19	1.42	3.58	2.84	2.69	4.97	7.46
Total	26.95	25.37	36.88	49.25	36.17	25.38	100.00	100.00

Occupational safety awareness

- Majority are unaware...
- The minority who are aware don't practice...



Sites of operations are often close to personal residence...



...constituting a measure of risk (e.g. noise, flood, etc.) to neighbours

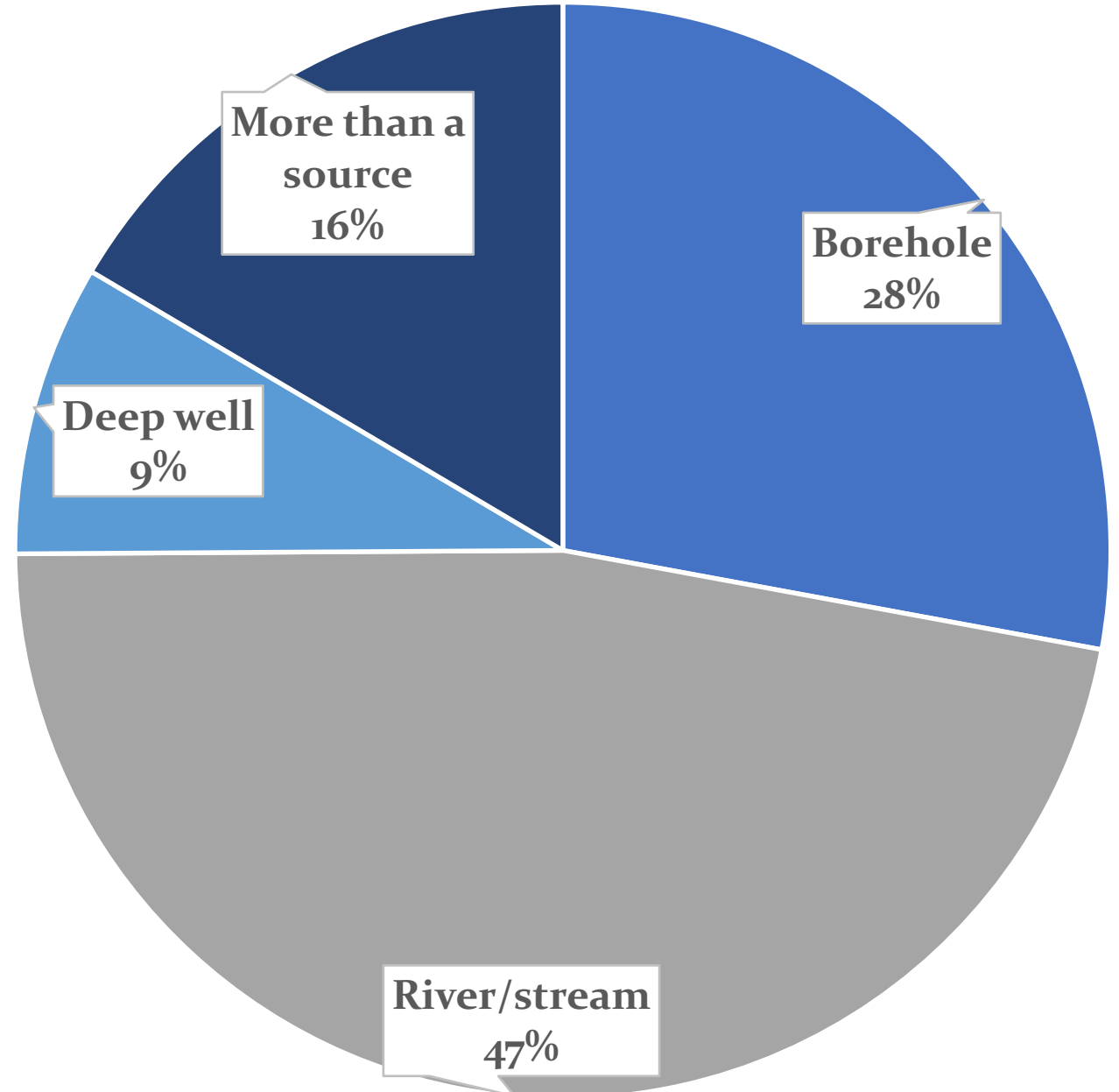
Sites of operations are often close to residence...(cont'd)



...constituting a measure of risk (such noise, flood, etc.) to neighbours

Sources of water supply...

- Farms are often prone to flooding on annual basis...

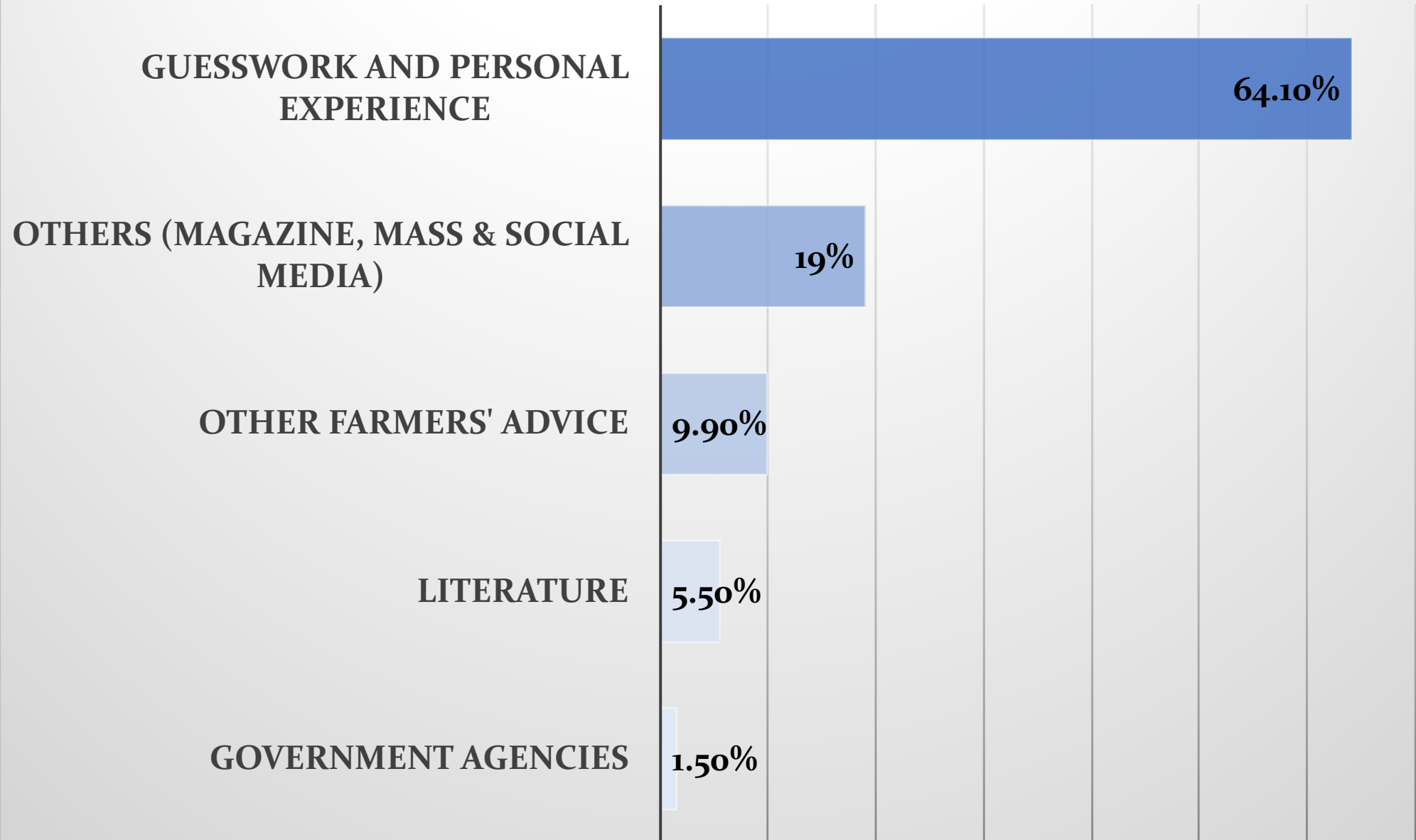


Low staff retention in the industry...

- Cheap labour and poor welfare packages
- Unskilled farm operatives earn **USD83.10 – 110.80** per month
- Skilled farm operatives earn **USD166.20 – 221.60** per month

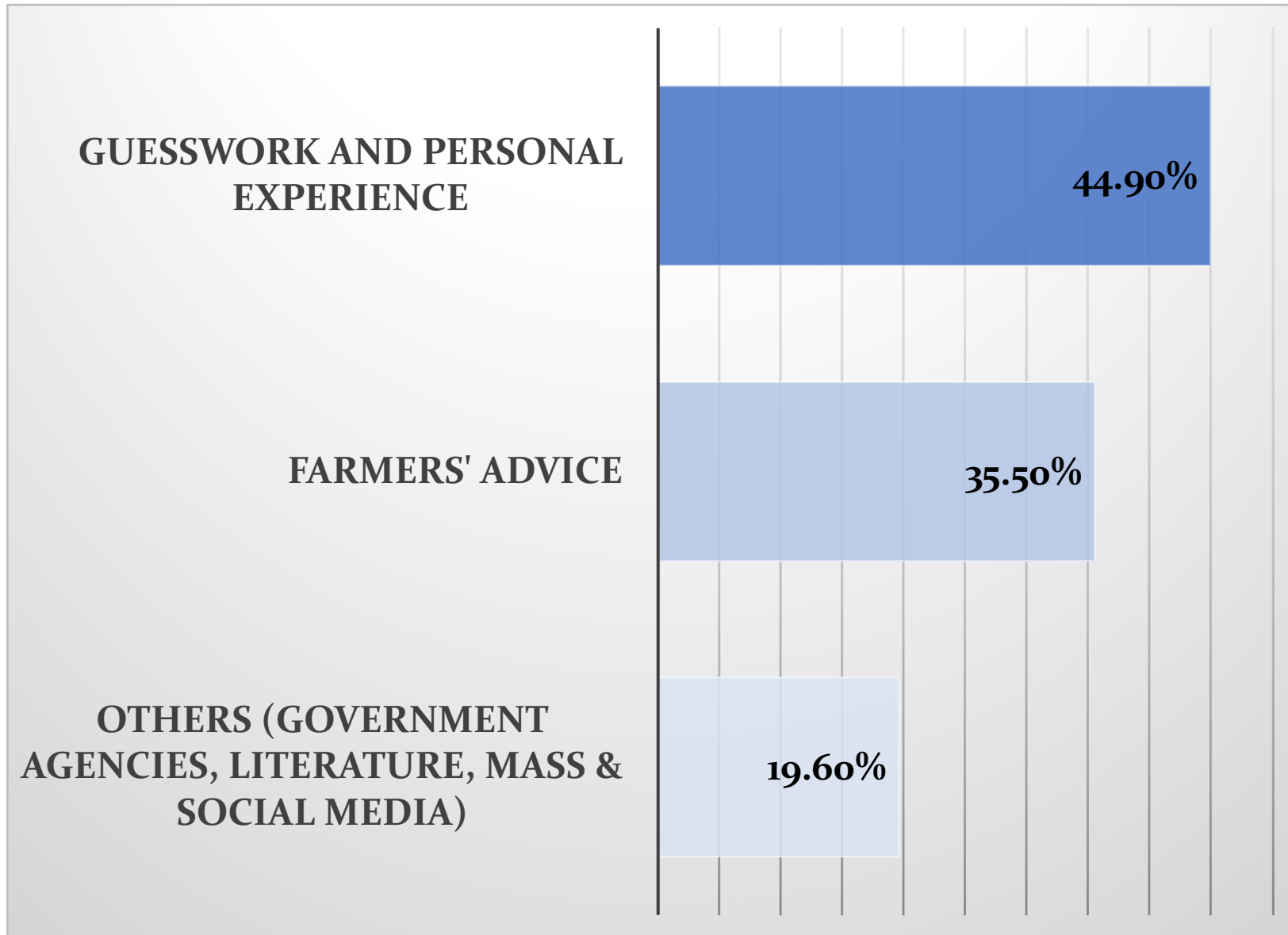


Operational guides...



Chemical usage and dosage...

Types of chemicals used and dosages are largely based on personal experience irrespective of adverse effects of such chemicals on public health and the environment...



Protective and safety gears are rarely used...

- Waders are rarely used during harvesting
- Safety and working boots are rarely used on wet and slippery surfaces
- Nose and ear covers are rarely used in feed mill against dust
- Hand gloves are rarely worn during chemical application & fish grading
- First aid box is very rare
- PFD are rarely used during operations in large waters



Protective and safety gears are rarely used...

- ...nose and ear covers are rarely used in feed mills against dust and noise



Protective and safety gears are rarely used...



...personal floating devices are rarely used during operations in large water

Protective and safety gears are rarely used...



...waders are rarely used during harvesting

Protective and safety gears are rarely used...



...safety and working boots are rarely used on wet and slippery surfaces

Protective and safety gears are rarely used...



...safety and working boots are rarely used on wet and slippery surfaces

Why poor awareness and/ or indifference to the occupational safety?

- **Extra cost and economic impact** of health and safety on aquaculture operations...
- **Consumers are somewhat not interested** in the occupational safety,
 - **cheap protein is much more important** than detailed health and safety protocols...
- **No particular policy and regulation** is in place for **occupational safety** in Nigeria aquaculture industry...

Way forward...

- **Awareness** of the importance and need of occupational safety in Nigeria aquaculture industry
- Provision of **enabling environment** to implement occupational safety in Nigeria aquaculture industry'
 - Incentives for the **industry operators**
 - Incentives (e.g. certification labels) for **consumers** of aquaculture products in Nigeria

Appreciations!



Food and Agriculture
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Thank you for the attention!