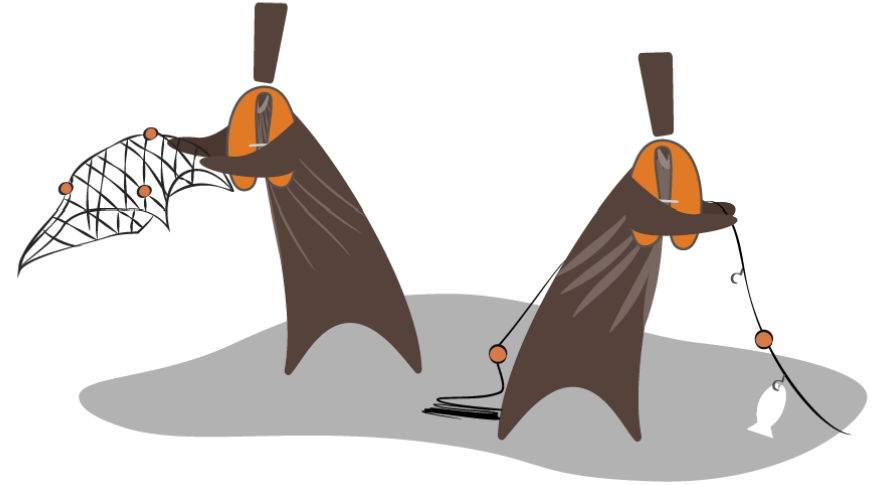


PFD's by Design

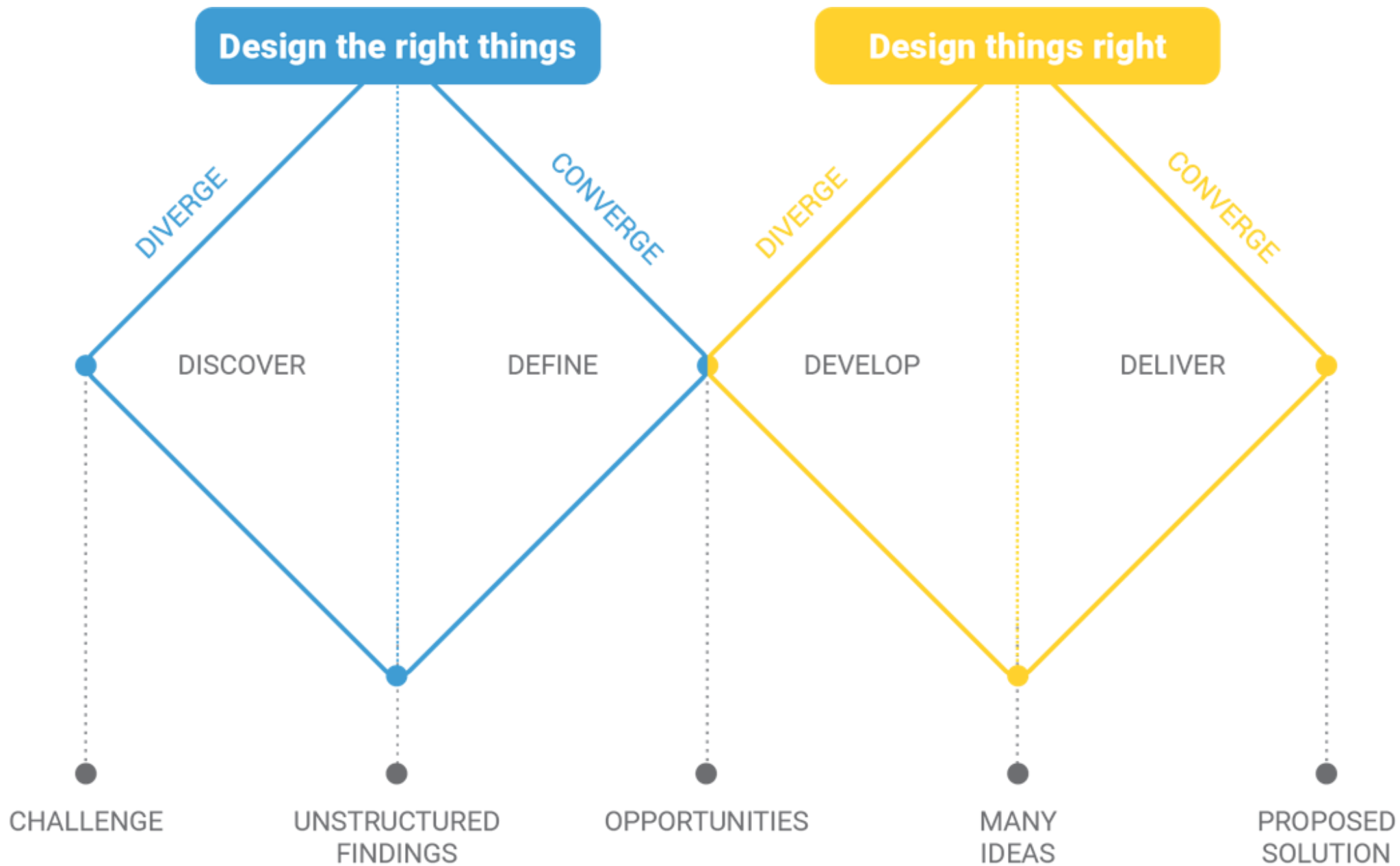
“A human-centred design approach to providing sustainable, effective and affordable buoyancy for artisanal fishers and communities on Lake Victoria, Tanzania”



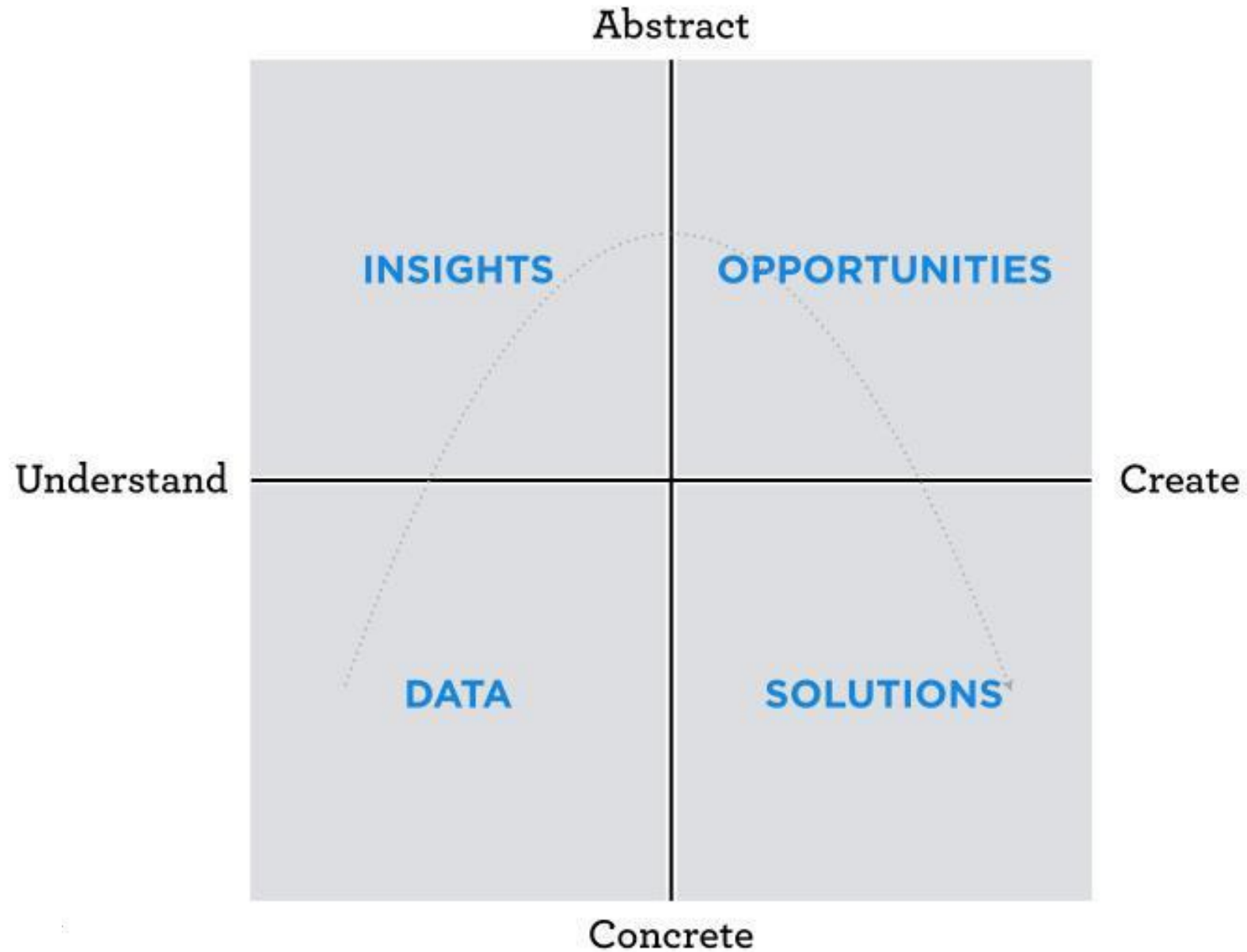
John Powell - International Lifesaving Manager – Royal National Lifeboat Institution (RNLI) UK
Senior Academic in Design and Engineering – Bournemouth University (BU) UK

Team: Dr. Rebecca Sindall **RNLI** / Arthur Mugema & Majura Maingu **EMEDO**
Lawrence Okoth, Dennis Nkurunziza, Nora Kawira, Abigail Turinayo **DWB**





MODES OF WORK





Source: John Powell RNLI

REGULATION

ENFORCEMENT

TAXATION

SUPPLY & USE

Stakeholders

Key activities

Challenges

TBS

FETA

TPA

MoALF

TRA

LOCAL SHOPS

FISHERS

BOAT OWNERS

BMU

TASAC

FISHERIES
OFFICER

Sets regulations

Packaging of
regulations

Complex buoyancy
terms

Non-compliant
imports

Unable to test
buoyancy devices

Inspecting boats

Certifying boats

Quality control

Understaffed

Fees
prioritized

Taxing
equipment

Tax exemption
awareness

Boat owners
provide life jackets

Fishers buy life
jackets

Buoyancy device
vs life jacket

cost as quality
metric

vs

Discomfort

LAKE VICTORIA



Existing product analysis

FLEETWOOD TESTING LABORATORY



IMO RESOLUTION MSC.81(70)
IMO RESOLUTION MSC.200(80)

EVALUATION AGAINST THE
REQUIREMENTS OF

EN ISO 12402-5:2020/EN ISO
12402-3:2020



*Fig.13. Subject 1 in
sample 3432/1 after
donning.*



*Fig.14. Subject 1 in
sample 3432/2 after
donning.*



*Fig.15. Subject 1 in
sample 3432/3 after
donning.*

Convening experts



World Health
Organization



Lifeboats

*WHO/RNLI LMIC
Buoyancy Technical
Group*



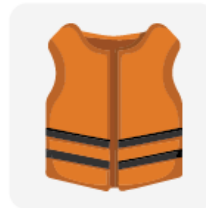
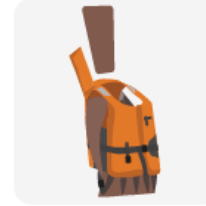


ISO Lifejacket 40,000 TSH (\$16) Payment plan



Comfort & use

This life jacket should have adequate neck and back support.



This jacket needs to be light weight to ensure comfort for longer use periods.



It should be designed with vents at the back for good air flow and cooling.

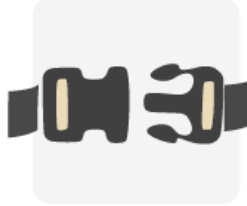


A good life jacket should not obstruct users when paddling or casting the fish net.

Safety & Accessories



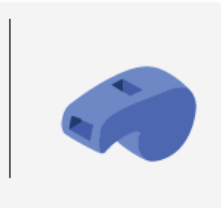
Visibly well placed reflectors.



A clip to fasten the jacket from the front



A phone pouch



Accessible whistle

Product Launch



Price at Tzs. 40,000.



Sell with payment plan.

User Requirements

Boda Boda

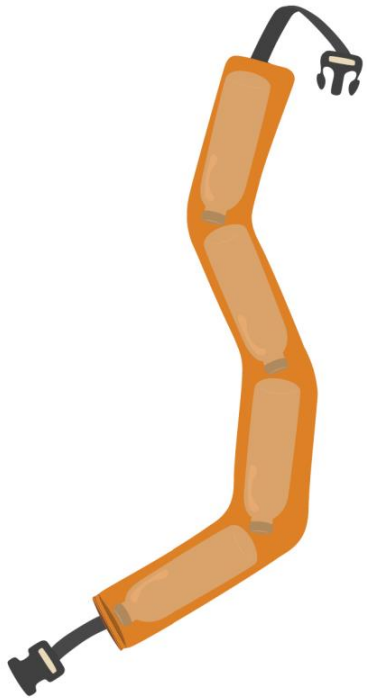
Wasomba Engese

Passengers

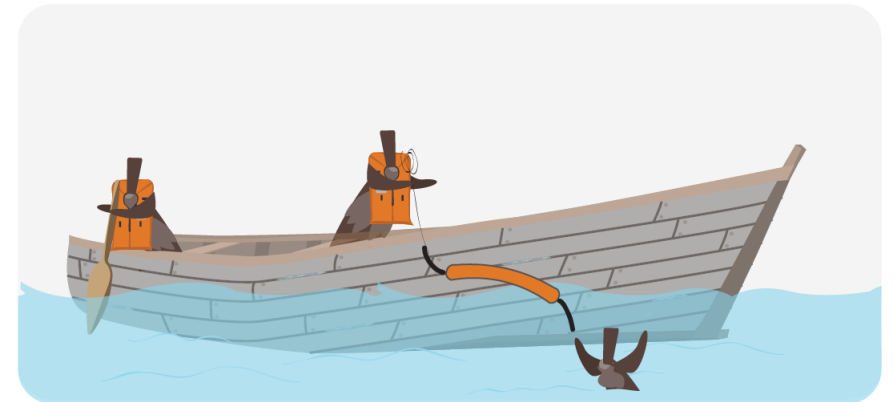
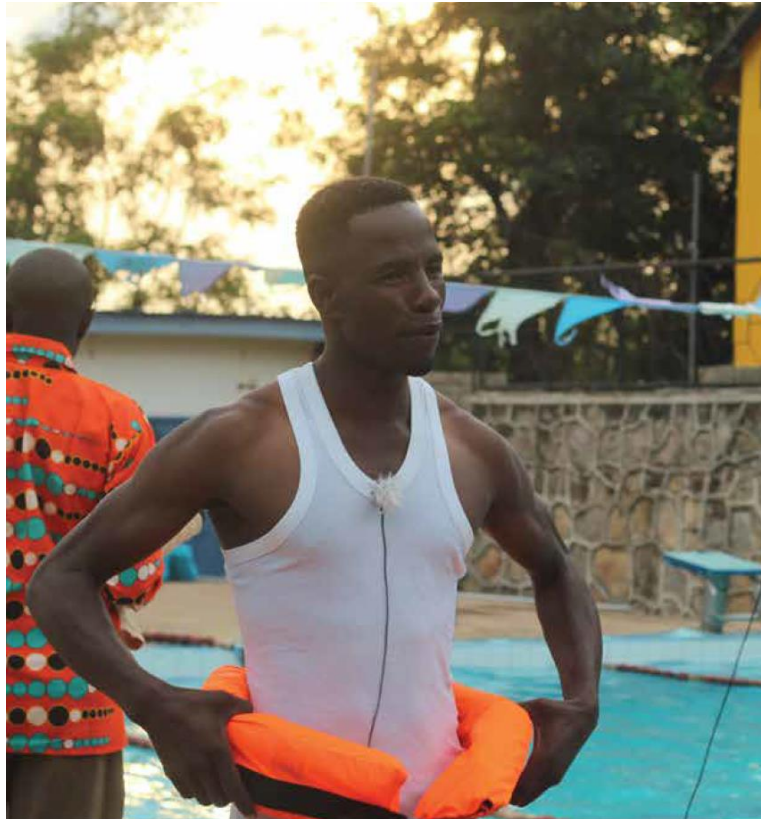
\$



Local life-ring 5,000TSH (2\$) 50N



10 X 500ML
BOTTLES

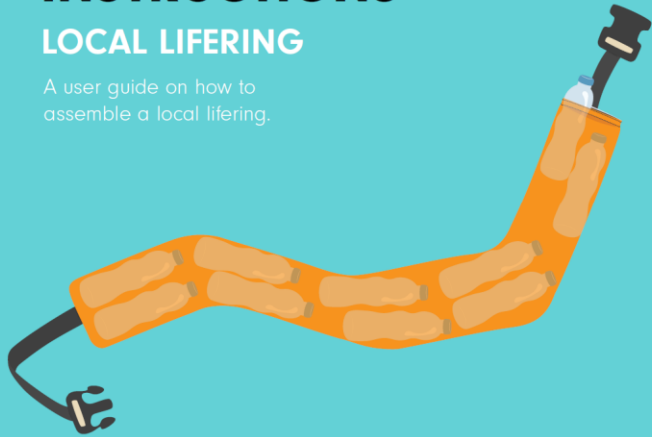


Community Manufacture

MANUFACTURING INSTRUCTIONS

LOCAL LIFERING

A user guide on how to assemble a local lifering.



What you'll need



Tough bright nylon fabric (500denier/ripstop)



Tough nylon fabric



Velcro



Plastic bottle (10 bottles, 500ml in size)



Buckle



Strong thick thread



Pen/chalk



Tape measure

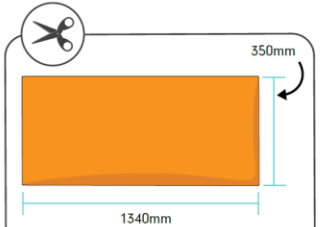
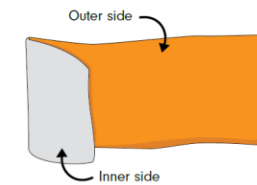


Scissors

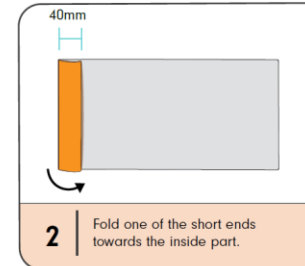


Sewing machine

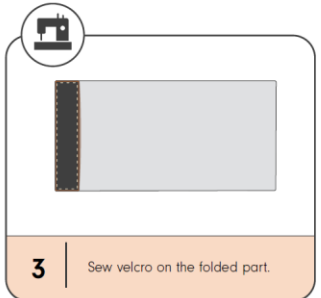
Note: Use a very strong stitch pattern



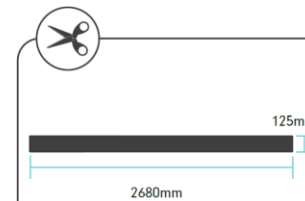
1 Cut a rectangle of fabric measuring 1340 X 350mm.



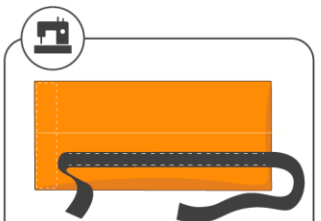
2 Fold one of the short ends towards the inside part.



3 Sew velcro on the folded part.



4 Cut a rectangle of fabric measuring 2680 X 125mm.



5 Sew the adjustable strap onto the bottom half of the outer fabric.

Info so that fishers can make an informed choice

ISO STANDARD LIFE JACKET



Reflective tape
It increases visibility when in the water

Whistle
Used to make audible noise when in distress

80N
Buoyancy
It has a buoyancy of 80 N

Tzs 45,000

WEAR It over the head and tie belt around the waist

USE all the time when in the lake

STORE in a clean and dry room

BUY in Mwanza town

BOUYANCY AID



Reflective tape
It increases visibility when in the water

Whistle
Used to make audible noise when in distress

65N
Buoyancy
It has a buoyancy of 65 N

Zip
It allows for easy fastening of the device

Tzs 24,000

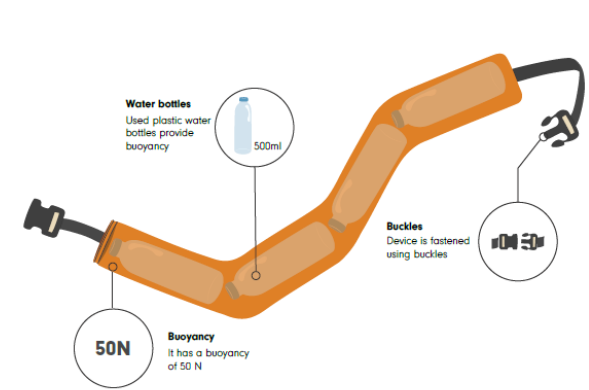
WEAR It like a jacket

USE all the time when in the lake

STORE in a clean and dry room

BUY in Mwanza town

LOCAL LIFE RING



Water bottles
Used plastic water bottles provide buoyancy

50N
Buoyancy
It has a buoyancy of 50 N

Buckles
Device is fastened using buckles

Tzs 2,500

WEAR It over the head and tie belt around the waist

USE to pull someone into the boat

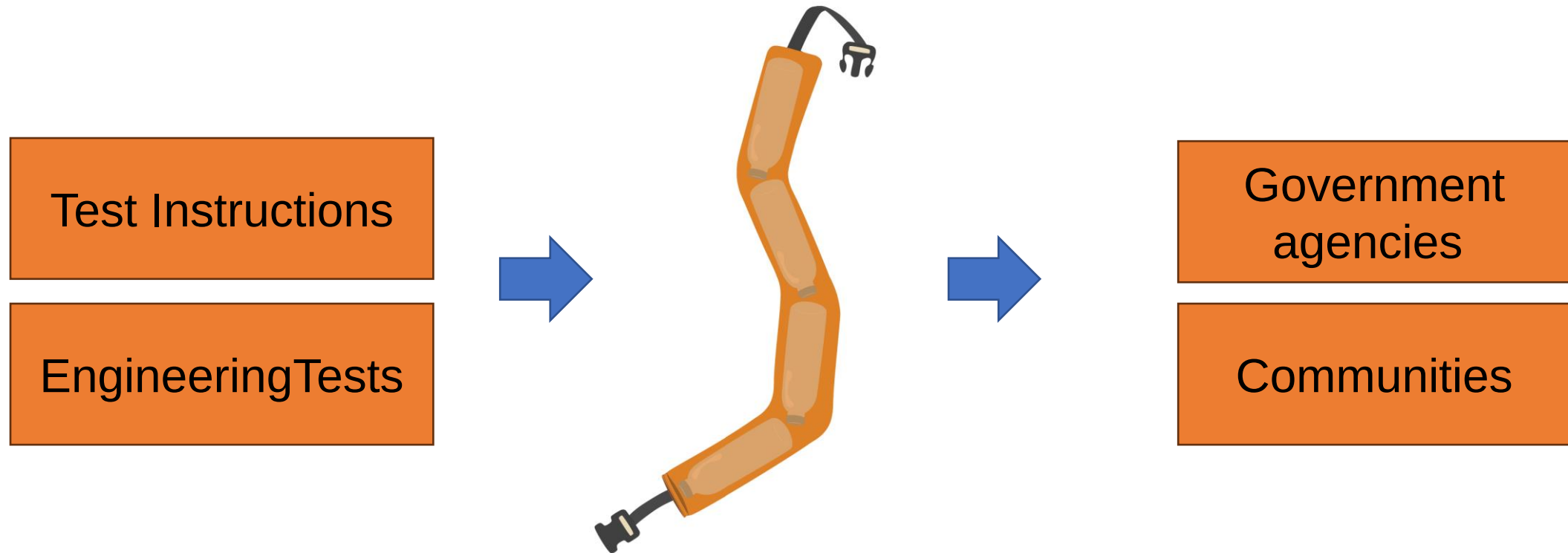
STORE in a clean and dry room

BUY in Mwanza town

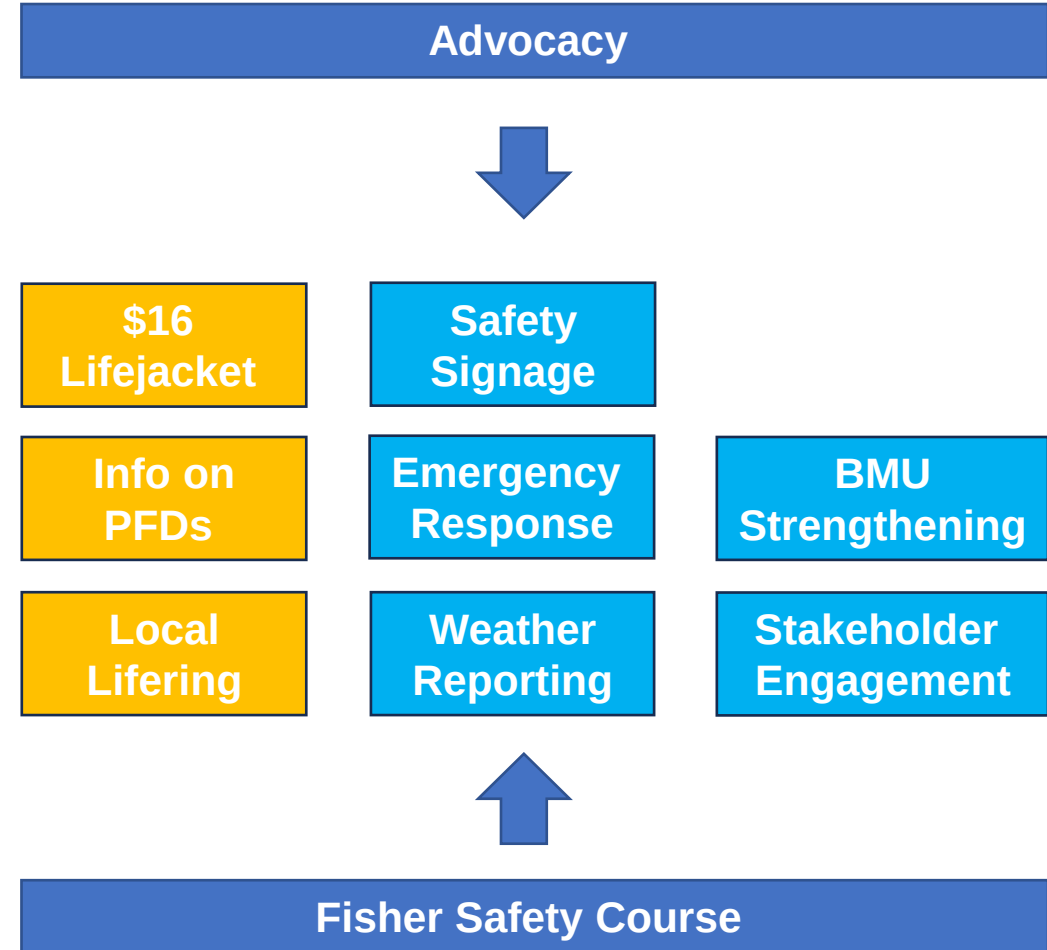
Next steps

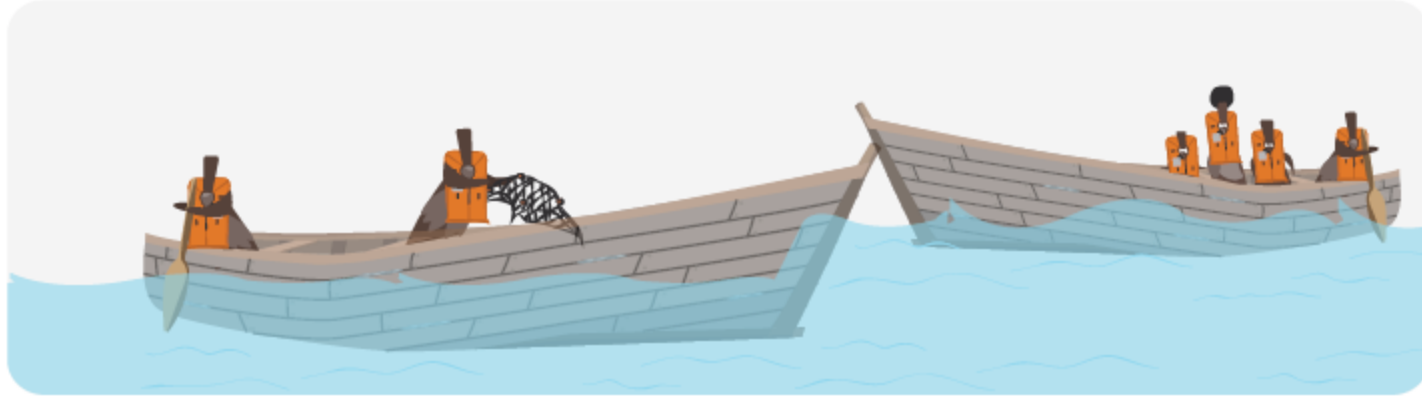


Next steps



Pilot – Impact study





The Future

Further Information

