


Comisión Interamericana del Atún Tropical
Inter-American Tropical Tuna Commission

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Development of "new FADs" in the eastern Pacific

Martin Hall, Marlon Román

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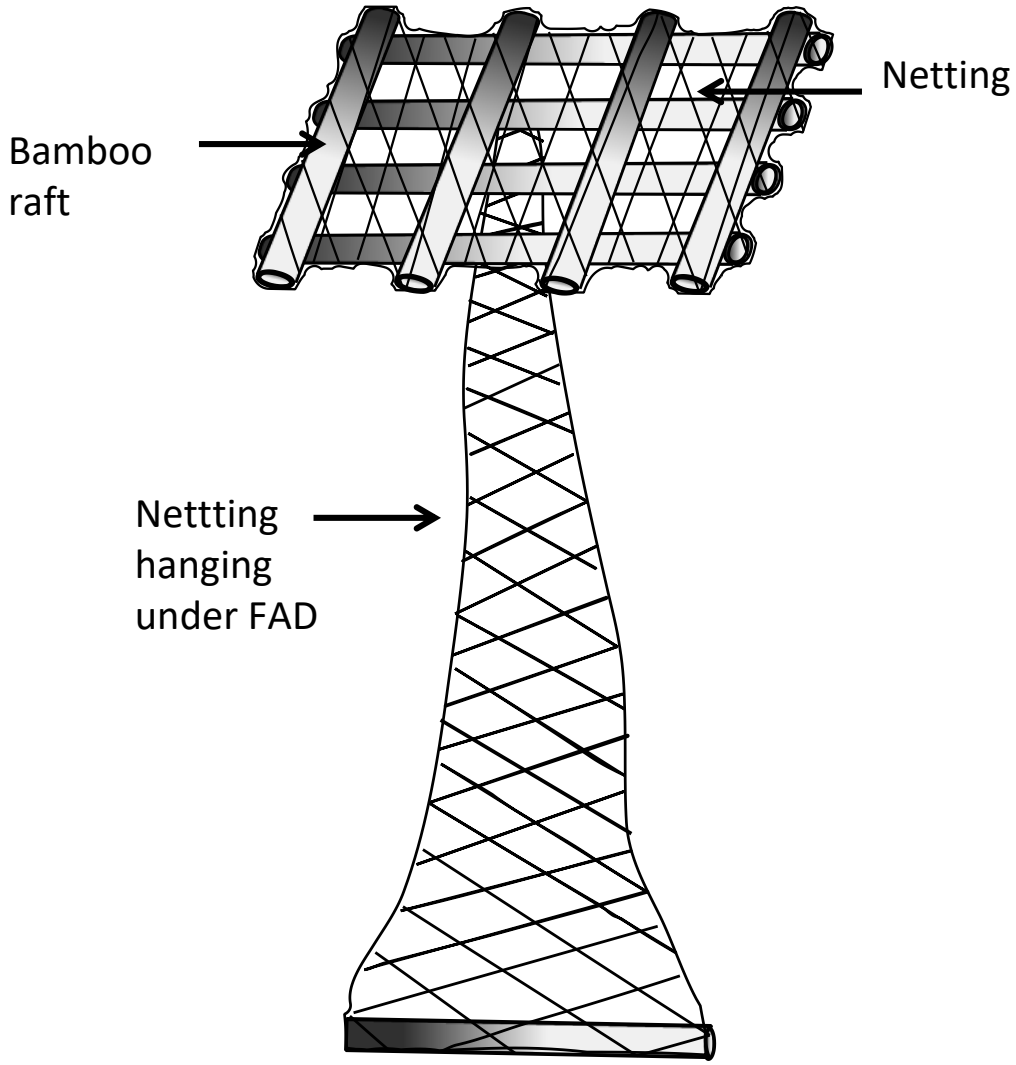
Characteristics of New FADs

- non-entangling
- degradable (bio or other)
- sustainable production
- attractive to tunas
- durable
- reasonable cost
- practical to use
- easily available materials
- no ecological dangers (e.g. invasion)

Characteristics of Traditional FADs



Objective

Develop and adopt New FADs with a much lower ecological footprint

CRITICAL STEPS:

Find replacement materials

Convince skippers of their adoption

Components of traditional FADs

- Floatation structure:
  - bamboo raft, frequently wrapped in netting, floats, PVC pipes, satellite buoy. Netting maintains the structure together.

- Submerged structure (tail):
  - netting hanging under raft (up to 80 m long or more). Netting provides attraction and changes drift speed.

Components of New FADs

- Floatation structure:
  - bamboo raft, wrapped in ? satellite buoy
    How to maintain the structure together ?

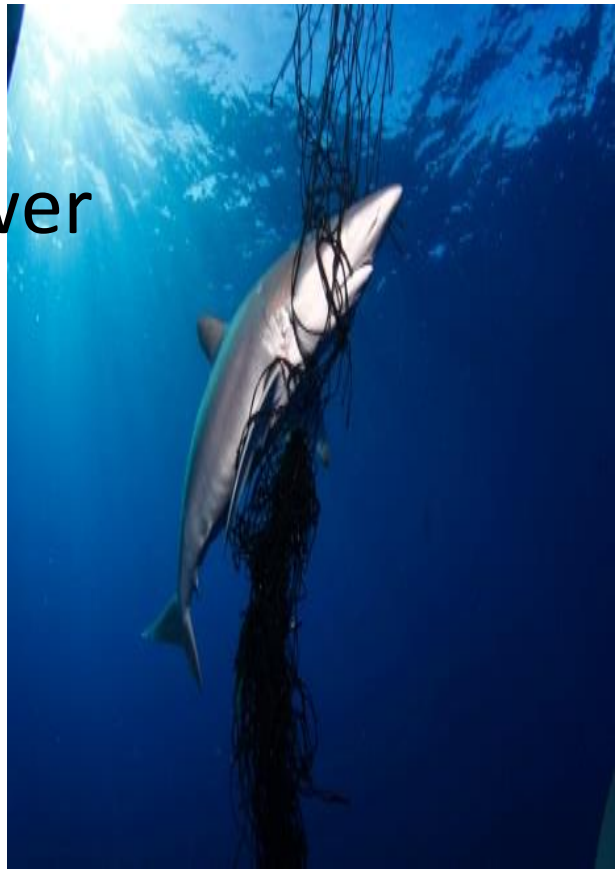
- Submerged structure (tail):
  - hanging under raft ?

Entanglements

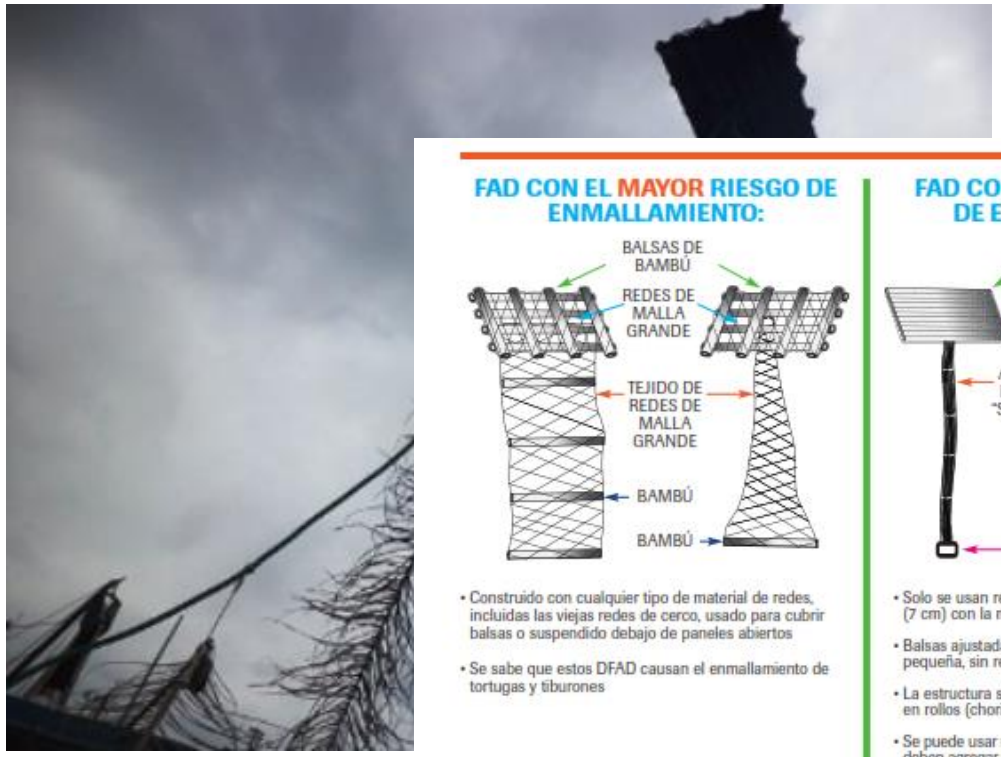
- On the raft, in the netting wrapping the structure (e.g. sea turtles)
- On the tail, sometimes sharks or sea turtles

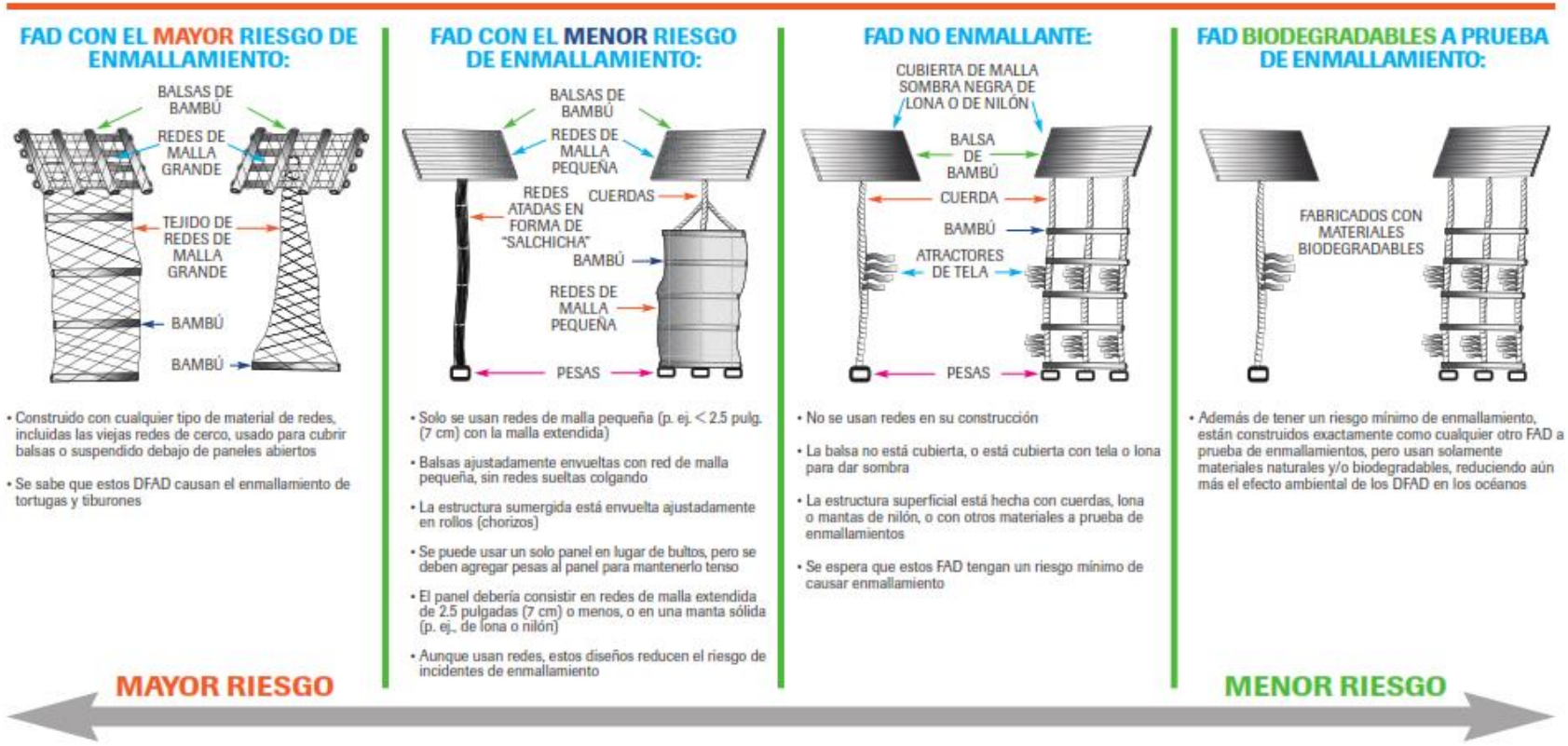
- Smaller mesh sizes, or netting tightly wrapped = fewer entanglements

- No netting: safest option.



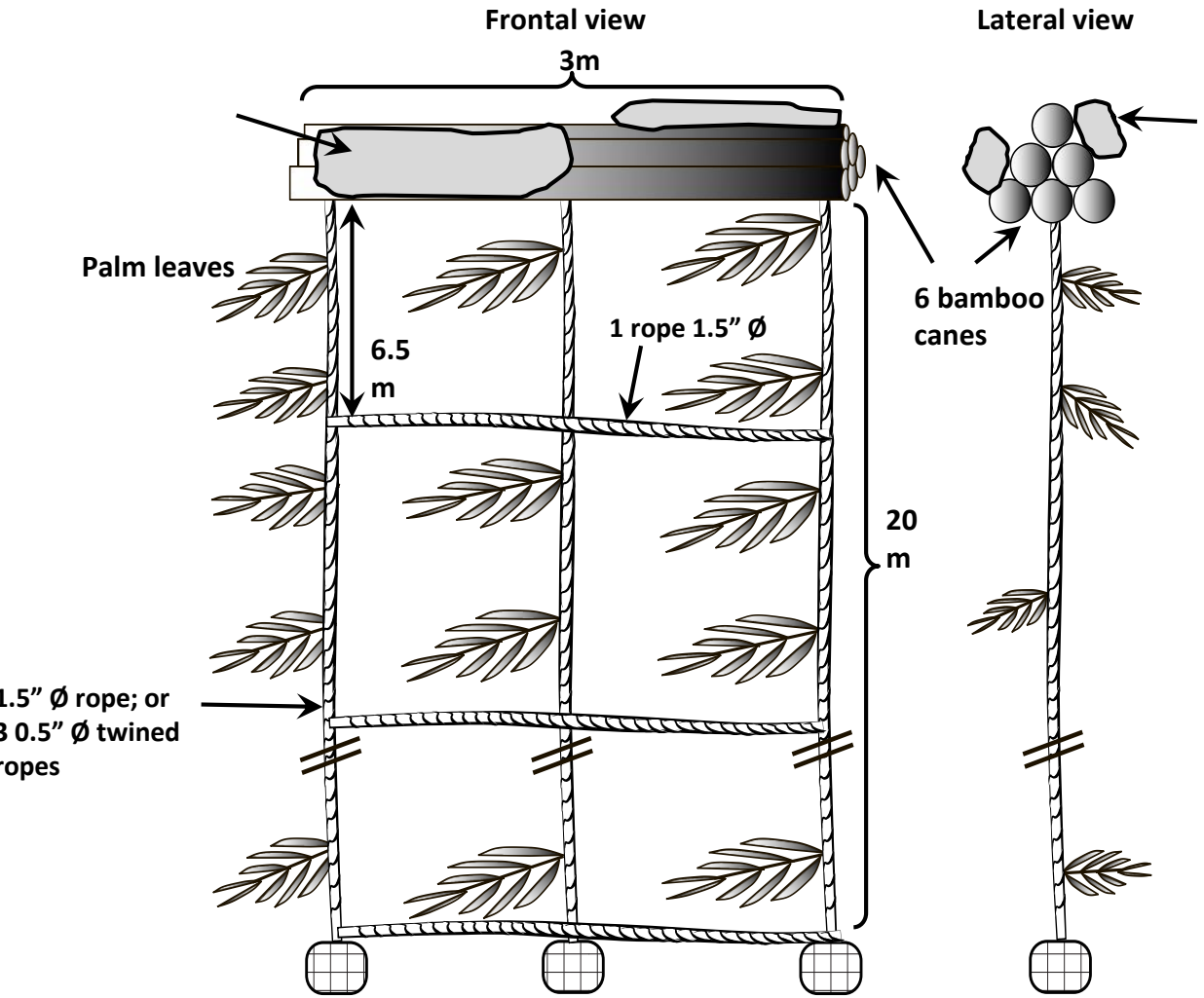
Options for submerged structure: materials



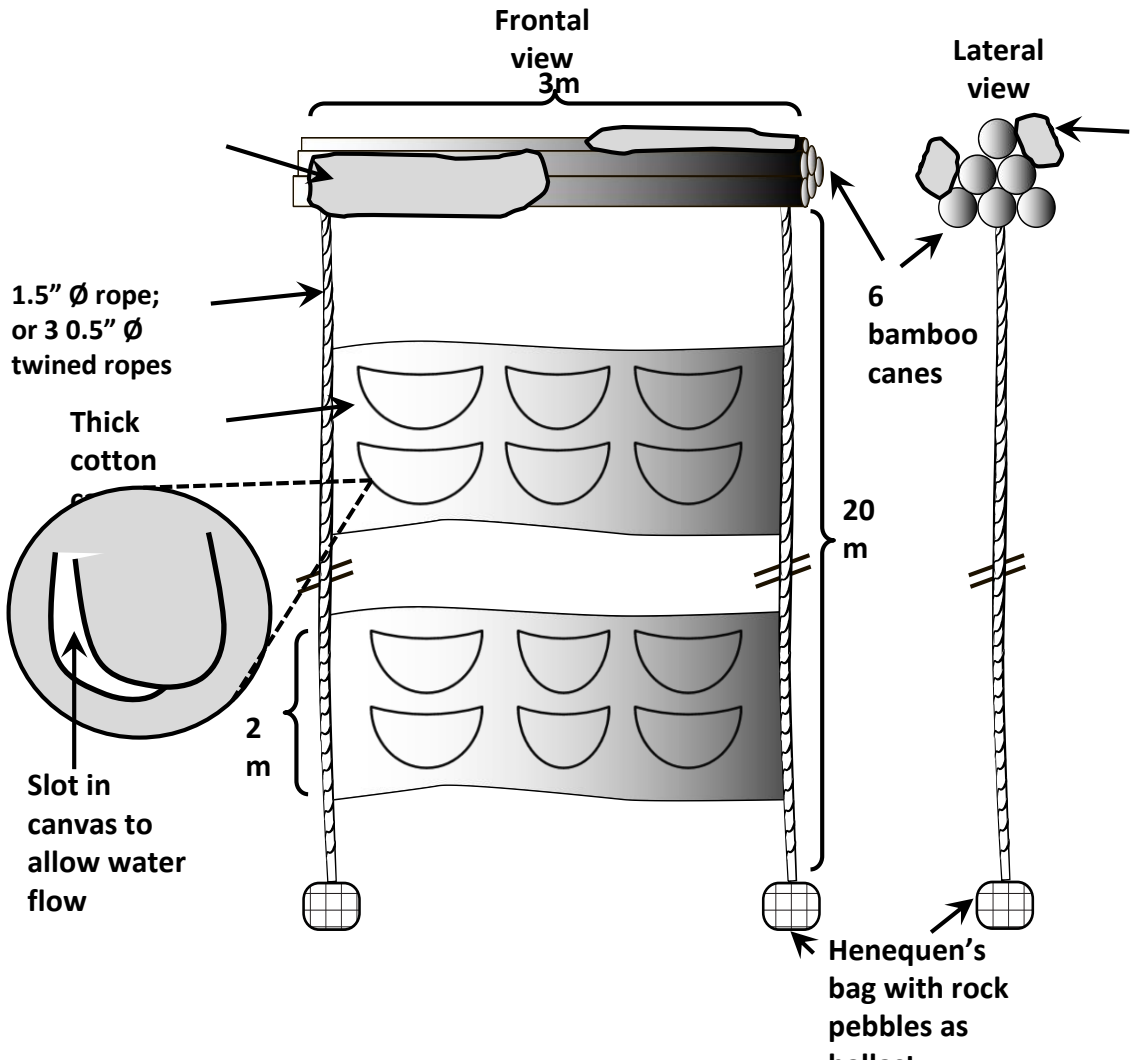


Options for submerged structure: materials

Prototype no. 1



Prototype no. 3



Types of ropes

- Cabuya (-) **Abaca (+)** Cotton (+ other experiments)
- Abaca (*Musa textilis*) origin Philippines,
  high production in Ecuador
- Industrial production, maritime uses
- Dyed black
- Choice material ABACA

Types of sails

- Cabuya (-) Abaca (-) **Cotton canvas (+)** Bamboo cloth ?

- Cabuya and abaca artisanal, low level production, not as resistant as canvas

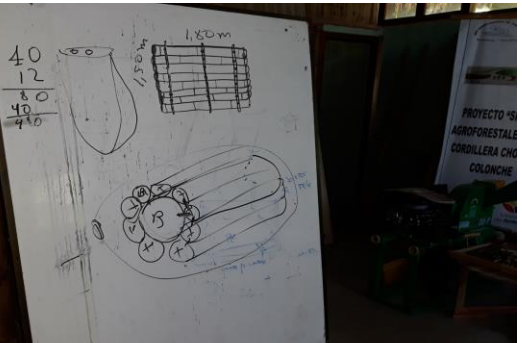
Floatation component

- Balsa wood identified early: widely adopted
- To keep bamboo together:
  - Bamboo nails continued by company
  - Joints (Frame FADs) Prototype in development in cooperative SUSPENDED

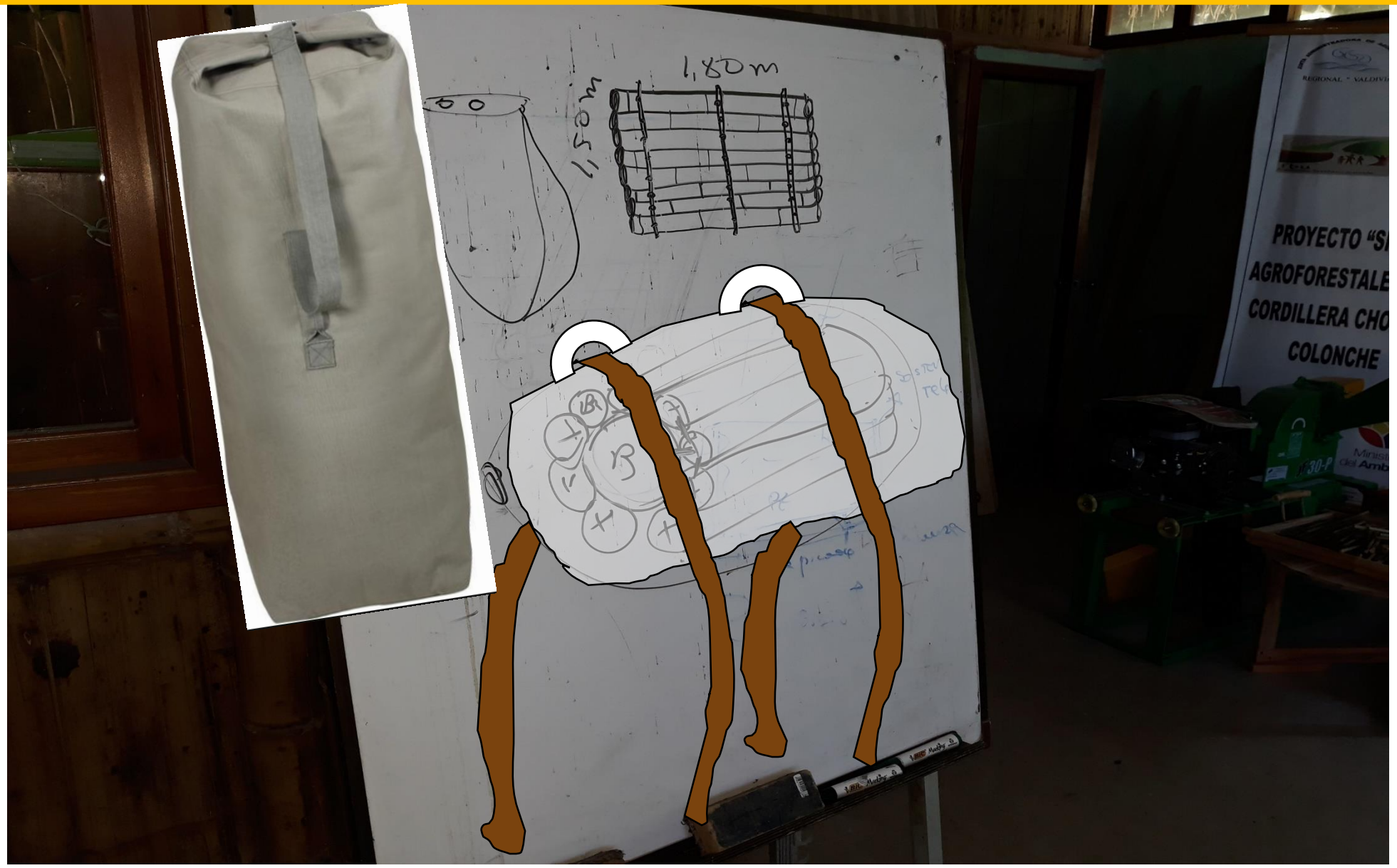
Bags Sailor bags cooperative could try to develop prototype SUSPENDED

Skipper's idea: custom made rectangular mouth bag

Prototype in development by manufacturer SUSPENDED



Replace the netting of the raft: canvass bags



Bamboo nails

Bamboo joints

Data collection

	# CRUCERO	OBSERVADOR	FADS A BORDO	FADS SEMBRADOS	FADS ENCONTRADOS
	151324		2	0	0
	151444		0	0	4
	151174		3	0	0
	151238		2	2	2
	151185		0	0	1
	151443		5	5	1
	151529		4	4	0

FORMA FLOTANTE/FORMA SUMERGIDA	COMP. AL ENCONTRARLO	COMP. AL DEJARLO	ESTADO PARTE FLOTANTE	ESTADO PARTE SUMERGIDA	MEDIDAS EST. METROS	Rb ENCONTRADA	Rb DEJADA	# LANCE/CAPTURA
Parrilla/Lona en segmentos	bambu,sogas,balsa,lona cabuya,plastico	bambu,sogas,balsa,plastico,saco cabuya con carnada	Buen estado, firmemente unida	Lonas de cabuya enteras, no presenta roturas	18 X 2 X 1,50			sin lance
Parrilla/Lona en segmentos	bambu,sogas,balsa,lona cabuyacont.carn. malla red 1,25"	bambu,sogas,balsa,cont.carn, malla red 1,25"	Buen estado, firmemente unida	Lonas de cabuya enteras, no presenta roturas	18 x 9 X 1,50			sin lance
,,	,,	,,	,,	Lonas de cabuya enteras, no presenta roturas	18 x 9 X 1,50			sin lance
Parrilla/Lona en segmentos	bambu,sogas,balsa,lona cabuya	bambu,sogas,balsa,lona cabuya	Buen estado, firmemente unida	Lonas de cabuya enteras, no presenta roturas	18 x 7 x 1,50			sin lance
,,	,,	,,	,,	,,	18 x 7 x 1,50			20/6skj
Parrilla/Lona en segmentos	bambu,sogas,balsa,lona cabuya	Subido a bordo	Buen estado, firmemente unida	Lonas de cabuya enteras, no presenta roturas	15 x 8 x 1,50			sin lance
Parrilla/Lona en segmentos	bambu,sogas,balsa,lona cabuya	Subido a bordo y sembrado luego en otro lugar	Buen estado, firmemente unida	Lonas de cabuya enteras, no presenta roturas	22 x 14 x 1,40			sin lance
Parrilla/Lona en segmentos	plantado sembrado (Ver ROF 003/001)	bambu,sogas,balsa,lona cabuya	Buen estado, firmemente unida	Lonas de cabuya enteras, no presenta roturas	22 x 14 x 1,40			sin lance
Parrilla/red tradicional no enmallante	plantado tradicional	bambu,sogas,balsa,lona cabuya, red no enmallante	Buen estado, firmemente unida	red tradicional no enmallante	35 x 12 x 1,50			sin lance
Parrilla/Lona en segmentos	Objeto natural encontrado (petate)	bambu,sogas,balsa,lona cabuya (sembrado)	Buen estado, firmemente unida (sembrado)	Lonas de cabuya enteras, no presenta roturas (sembrado)	20 x 10 x 1,50			sin lance
Parrilla/Lona en segmentos	bambu,sogas,balsa,lona cabuya,tacho plastico carnada	bambu,sogas,balsa,lona cabuya,tacho plastico carnada	Buen estado, firmemente unida	Lonas de cabuya enteras, no presenta roturas	33 x 13 x 2,20			sin lance
Parrilla/Lona en segmentos	plantado tradicional es subido a bordo	bambu,sogas,balsa,lona cabuya	Buen estado, firmemente unida (sembrado)	Lonas de cabuya enteras, no presenta roturas	20 x 10 x 1,50			sin lance
Parrilla/ Lona	bambu,sogas,balsa,lona cabuya	bambu,sogas,balsa,lona cabuya	Buen estado, firmemente unida		28 x 10 x 1,50			sin lance
Parrilla/ Lona	bambu,sogas,balsa,lona cabuya	bambu,sogas,balsa,lona cabuya	Buen estado, firmemente unida		28 x 10 x 1,50			sin lance
Parrilla/ Lona	bambu,sogas,balsa,lona cabuya	bambu,sogas,balsa,lona cabuya	Buen estado, firmemente unida		28 x 10 x 1,50			009/10
Parrilla/ Lona	bambu,sogas,balsa,lona cabuya	bambu,sogas,balsa,lona cabuya	Buen estado, firmemente unida		28 x 10 x 1,50			034/38

Data collection

- Early process spontaneous: data collection insufficient. Observer may not be aware of the FAD type unless lifted out of the water. New FADs carried but not deployed. Or deployed but not checked

- Follow up process SUSPENDED
  - Purchase materials
  - Local staff: supervise construction of FADs following designs selected
  - Provide to vessels committed to help (TUNACONS, OPAGAC, ATUNEC)
  - ACCESS TO BIOMASS ESTIMATES all FADs ?
  - Talk to skipper and observer prior to departure, verify FADs in use, request data on checks without fish, catches, FAD condition,
  - Talk to skipper and observer at end of trip. Data and impressions.

- As Peru season is shorter, deploy in May – June for equatorial region (many boats, longer season) SUSPENDED

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Questions