Fishery Dependent Information for the Establishment and Management of Marine Protected Areas (MPAs) in Sierra Leone

©Sheku Sei*, Andrew Baio and Salieu Sankoh
Second Fishery Dependent Information Symposium, FAO Headquarters, Rome, Italy, 3-6th March 2014
PRESENTATION CONTENT

✓ SIERRA LEONE FISHERIES SUB SECTORS
✓ RESEARCH RATIONALE AND OBJECTIVES
✓ INSTITUTIONAL ANALYSIS FOR MPAs IN SL
✓ DATA COLLECTION AND ANALYSIS USING MULTI-CRITERIA AND EMPIRICAL MODELS
✓ RESULTS: INTELLIGENT DECISION SYSTEM (IDS) OUTPUT FOR MPAs IN SL
✓ RESULTS: EMPIRICAL MODEL OUTPUTS
✓ CONCLUSIONS AND THE WAY FORWARD FOR EFFECTIVE MPA MANAGEMENT IN SL
SL FISHERIES SUB-SECTORS

Industrial Fisheries (Trawlers)

Artisanal Fisheries (Community Based)

Inland Fisheries/Aquaculture - Inland waters and inland Valley swamps
RESEARCH RATIONALE AND OBJECTIVES

✓ The illegal targeting of juvenile fish by trawlers and small scale fishers on fish breeding grounds has threatened livelihoods of major fishing communities in Sierra Leone.

✓ Some target fish species are now either overexploited or fully exploited. The number of artisanal fishing crafts is on the increase with low daily fish catches with incomes unable to meet the basic subsistence needs of artisanal fishers and their households. Fishing at a loss remains a dilemma for fishers in many fishing communities.

✓ The key objectives of this study was to evaluate fish sizes and fleet capacity of the artisanal fishery and relevant socio-economic and ecological indicators useful for the establishment of MPAs in Sierra Leone and developing a management plan for the marine small scale fishery.
INSTITUTIONAL ANALYSIS FOR MPAs

✓ The research methods was based on a comprehensive analysis of the current institutional arrangements for the establishment of marine protected areas (MPAs).

✓ Using the framework for institutional analysis of common property, adapted from Oakerson (1992) and Eleanor Ostrom et al. (1994), four key variables were considered to be important for effective and collective action for MPA establishment and management - namely:

(1) Contextual Variables (2) Incentive to Corporate and Coordinate; (3) Patterns of interaction among stakeholders; and (4) Outcomes such as efficiency, equity and sustainability of arrangements.
INSTITUTIONAL ANALYSIS .......

CONTEXTUAL VARIABLES

- Biological, Physical, Technological Attributes
- Market (Supply-Demand) Attributes
- Attributes of Fishers/Stakeholders Community
- Fisher/Community Level Institutional Organisational Arrangements
- External Institutional and Organisational Arrangements

MECHANISMS

- Incentive to Coordinate and Cooperate
- Patterns of Interactions among Stakeholders

OUTCOMES

Exogenous Attributes
- Macroeconomic, Political, Social and Natural Attributes

Within Fisher/Community

Outside Fisher/Community
DATA COLLECTION

✓ For the Multi-criteria analysis, Questionnaires were designed to accommodate contemporary queries of user perception on the qualitative variables and quantifiable demographic variables on artisanal fishery.

✓ A total of 432 questionnaires were administered by enumerators for the Sherbro River and Yawri Bay with 234 questionnaires for the Sherbro River Estuary MPA which had more localities.

✓ A total of 315 questionnaires were administered for the Sierra Leone River and the Scarcies River Estuary MPAs with 234 questionnaires for the Sierra Leone River Estuary MPA that had more localities.

✓ For more empirical information on fish stocks and fisher livelihoods, fish sizes, artisanal fleet capacity, ecological risk assessment (ERA) and investment analysis based on internal rate of returns (IRR) algorithm were used.
SAMPLING FRAME

✓ Sampling employed a stratified purposive non-probability technique using questionnaires, with a sampling frame of 9 elements per coastal community, which included key stakeholders (gate keepers) in fishing communities located in and around the proposed MPAs:

(i) Fishers  (ii) Fisher Organisations (SLAFU, SLAAFU)  
(iii) Harbour Masters (iv) Master Fishermen (v) Councillors (vi) Village Headmen (vii) Chiefs  (viii)Youth Leaders (ix) Financiers
Questionnaires on Socio-Economic Studies for the Institution of Marine Protected Areas (MPAs) in Sierra Leone.

Baseline Questionnaire

PREAMBLE: I am (.........................) part of the IMBO Team undertaking a baseline survey on socio-economic characteristics in designated MPAs areas along the coast of Sierra Leone. Your response will be treated with the greatest confidentiality you deserve and would be averaged out with those of other respondents. I am very grateful for the allocation of your precious time to respond to these questions.

Location:  Date:  Stakeholder Name/Designation:

Start time:  Stop Time:

Section A: Contextual Variables

a. Biological, physical and technological attributes

i. What type of ecosystem do you exploit for your living?
   01- Mangrove  02. Forest  03. Aquatic ecosystem  04. Coral reefs 05. Sea grass beds
   99, others (specify)..........................

ii. Which area of the ecosystems do you exploit in terms of reach?
    01- Onshore  02. Mid water  03. Inshore 04. Offshore 05. Primary forest 06.
    Secondary forest  99. Others (specify)..........................

iii. What resource access arrangements do you have in place?
     01. Open access  02. Use rights  03. Protected areas 04. Hereditary 99. Others
     (specify)..........................

iv. Which type of resource do you exploit?

     01. Fisheries  02. Forest products  03. Non timber forest products 04. Aquatic flora 05.
     Sand 06. Salt  99. Others (specify)..........................

v. What would you say about the status of the resource that you exploit?

     01. Excellent  02. Very good  03. Good  04. Fair  05 Poor

vi. Mode of exploitation

     01. Passive fishing gears  02. Active fishing gears  03. Mining  04. Gathering 05.
     Farming 99. Others (specify)..........................
Section B: **Incentives to cooperate and coordinate**

i. What is the level of your involvement in decision making
   01. Minor  02. Medium  03. Major

ii. How do your authorities of resource management system assume positions?
   01. Elected 02. Selected 03. Inheritance 04. Appointed

iii. What are the capital assets in your household?

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

iv. Which activity (ies) do you engage in for your living?

v. Which alternative livelihoods will you support if excluded from your main source of livelihood?

vi. Which other social cohesion structures exist in your community?

vii. Which social disintegration factors exist in your community?

viii. What are the internal vulnerability factors in your community?

ix. Which of these factors are the most important (Please rank – 10 point scale)

x. What strategies would you suggest to accommodate and address these issues?

xi. What are the vulnerability factors that are external to your community?

xii. Which of these factors are the most important? Please rank

xii. What strategies would you suggest to accommodate and address these issues?
ii. What are the existing channels for stakeholder consultations


Section D: Outcomes (efficiency, equity and sustainability of MPA management arrangements)

i. What do you know about MPAs...

ii. How did you learn about MPAs 01 Media  02 Union/Association  03 Central Government  04 Local Council  05 NGO  99 Others (specify)…………………

iii. What is your level of education?
iv. 01. Primary school  02. Secondary School  03. Vocational Training  04. University  05. Adult education

v. Do you like the idea of MPAs...

vi. Which conditions will you suggest for the compliance and acceptability of management strategies and tactics?


vii. Which communication strategies do you have in place for resource management

01. Town Crying  02. Radio and TV discussions  03. Community meetings  04. Brochures and flyers
DATA ANALYSIS: Multi-Criteria Decision

✓ Realizing that most of the data collected is qualitative, and considering that most communities have multi stakeholders with different views, a multi-criteria analysis was used to convert qualitative data into quantitative data in order to prioritize and rank the importance of the different judgements captured from the stakeholders.

✓ This multi-criteria analysis procedure employed is based on evidential reasoning. Priority issues were identified based on reasoning and ranks. These ranks were based on assignment of weights that relies on an Analytical Hierarchy Process (AHP) embedded in the Intelligent Decision System Multi Criteria Assessor (IDS).
IDS STRUCTURAL MODEL
HIERARCHY OF ATTRIBUTES AND ALTERNATIVES FOR MPAS IN S/LEONE
DATA ANALYSIS: Alternatives on socio-Economic Attributes for MPAs

✓ The priority issues in the output of the IDS model are proxies for decision making for the management of MPAs as prescribed by the socio-economic variables that modelled.

✓ The set of alternatives modelled include: contextual variables, incentive to cooperate and coordinate, patterns of interaction and outcomes, efficiency and equity. These alternatives were queried against 50 set of attributes.
DATA ANALYSIS: Artisanal Fleet Capacity and Fishery Investments

✓ Artisanal fleet capacity was analysed using the canoe registration database system

✓ Information on canoe owner details and gear characteristics for each landing site were analysed to generate reports on artisanal fleet capacity by landing site per coastal districts

✓ Fishery investment analysis was done using the net Present Value (NPV) discounting investment appraisal technique for the standard 5-10 fishing canoes operating in MPA areas
Artisanal fishery investment Analysis

✓ Depreciation charges were not applied for fishery investments because the cost of repairs and maintenance of fishing gears accounts for economic depreciation.

✓ The total income and expenditure per year of the fishing economic unit was used to calculate the net cash flow (NCF) (NCF= Income – Expenditure).

✓ The sum of the Present Value over a period at different discount rates of return gives the Net Present Value (present value of cash flows minus initial investment), thus IRR was computed as r in

\[
NPV = \sum_{n=0}^{N} \frac{C_n}{(1+r)^n} = 0
\]
Artisanal fishery Investment Analysis....

\[ NPV = \sum_{n=0}^{N} \frac{C_n}{(1+r)^n} = 0 \]

✓ N is the period of investment, Cn is the cash flow (cash inflows-cash outflows) and r is the discount rate of returns (the opportunity cost of capital).

✓ The initial fishers’ investment is the immediate cash outflow (C0) which is negative and includes the cost of fishing net, outboard engines, craft, fuel and labour. The NPV was therefore computed as:

\[ NPV = -C_0 + \frac{C_1}{(1+r)} + C_2/ (1+r)^2 + \ldots + C_n/ (1+r)^n \]

✓ When NPV >0, investment is profitable and for NPV= 0, it is a situation of indifference where fishers still invest (fish) because there is little or no alternative livelihoods activity at their disposal.
FLEET CAPACITY ASSESSMENT

Application Form for Canoe Owner

Owner identification:  
Owner name:  

Date of birth:  
Sex:  

Nationality:  

Fishing agency:  
Phone number:  

Owner address:  

<table>
<thead>
<tr>
<th>Owner ident</th>
<th>Owner name</th>
<th>Date of birth</th>
<th>Sex</th>
<th>Nationality</th>
<th>Fishing agency</th>
<th>Phone number</th>
<th>Owner address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DATA ANALYSIS: Fish Exploitation Status

✓ Fish size composition and exploitation status were analysed using length frequency data collected during surveys and artisanal catch data collected in 2006, 2007, 2008, 2009 and 2010.

✓ The FAO/ICLARM Fish Stock Assessment Tool FISAT and the CADIMA Model was used to analyse the status of the fishery.

✓ Using the Cadima Model, the 2006 Biomass data from Dr. Fridtjof Nansen Survey for was combined with commercial landing data for 2006 to compute potential yields (MSY) as $MSY = 0.5 \ (Y + MB_c)$

✓ Where Y and B represent the total catch and average biomass obtained in 2006 respectively, and M is the natural mortality for the different fish species. M was obtained from FishBase.
DATA ANALYSIS: Ecological Risk Assessment (ERA)

✓ The ERA was based on risk assessment process to generate reports on all relevant issues affecting the marine small scale fishery of Sierra Leone adapted from (Fletcher et al., 2002, 2005).

✓ Using government and stakeholder input from an EAF task Group (NTG) to generate a clear vision and agreement on how to define the fishery, Identification of Assets, Issues and Priorities from which the Small Scale Marine Artisanal Fishery Management plan was Developed.
The ERA was used to identify key ecosystem approach to fisheries management issues using component tree.
RESULTS: Yawri Bay MPA

Alternatives on Priority issues and institutional arrangements for MPA

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Contextual Variables</th>
<th>Incent coop coord</th>
<th>Patterns interaction</th>
<th>Outcomes efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum score</td>
<td>0.1278</td>
<td>0.1159</td>
<td>0.1176</td>
<td>0.1157</td>
</tr>
</tbody>
</table>

Belief degree

- Poor: 8.15%
- Indifferent: 47.67%
- Average: 35.66%
- Good: 1.35%
- Excellent: 7.37%
RESULTS: Ranking of Alternatives on Status of Resource and Cooperation for Yawri Bay MPA

### Ranking of Alternatives on Status of Resource

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contextual Variables...</td>
<td>0.4379</td>
</tr>
<tr>
<td>Incent coop coord</td>
<td>0.0196</td>
</tr>
<tr>
<td>Patterns interact...</td>
<td>0.0663</td>
</tr>
<tr>
<td>Outcomes eff equs...</td>
<td>0.0625</td>
</tr>
</tbody>
</table>

### Individual Variables on Cooperation coordination interaction equity etc

<table>
<thead>
<tr>
<th>Evaluation grades</th>
<th>Belief degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>1.57%</td>
</tr>
<tr>
<td>Indifferent</td>
<td>31.43%</td>
</tr>
<tr>
<td>Average</td>
<td>66.94%</td>
</tr>
<tr>
<td>Good</td>
<td>0.00%</td>
</tr>
<tr>
<td>Excellent</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

Average score:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Contextual Variables...</td>
<td>0.4379</td>
</tr>
<tr>
<td>Incent coop coord</td>
<td>0.0196</td>
</tr>
<tr>
<td>Patterns interact...</td>
<td>0.0663</td>
</tr>
<tr>
<td>Outcomes eff equs...</td>
<td>0.0625</td>
</tr>
</tbody>
</table>
RESULTS: Size Composition of Herring and Bonga Shad in MPA Areas

Size indicators SL River and Scarcies River

Fish Size indicators_Yawribay
RESULTS: Condition Factor of herring and false Scads in SL

Flat Herring, \( W = 0.04 \) (TL)^{3.14}
\[ y = 3.1384x - 5.1332 \]
\[ R^2 = 0.9467 \]

Round Herring, \( W = 0.001 \) (TL)^{3.8}
\[ y = 3.7687x - 7.037 \]
\[ R^2 = 0.9503 \]

False scad, \( W = 0.01 \) (TL)^{2.97}
\[ y = 2.9686x - 4.5245 \]
\[ R^2 = 0.9003 \]
RESULTS: Exploitation Status of Flat Herring in SL

L-25: 18.20 cm
L-50: 19.39 cm
L-75: 20.39 cm

Asymptotic length (Loo): 25.00
VBGF growth constant (K): 0.840

Amplitude of oscillation (C): 0.000
"Winter Point" (WP): 0.000
Starting sample (SS): 4
Starting length (SL): 5.00
### RESULTS: PRESENT VALUE ON FISHERY INVESTMENT FOR STANDARD 5-10 CANOES

<table>
<thead>
<tr>
<th>Investment Input</th>
<th>Cash out flows</th>
<th>Cash inflows</th>
<th>Years</th>
<th>PV</th>
<th>Discount rate (r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tripattite share (crew)</td>
<td>19,000,000</td>
<td>23,732,000</td>
<td>2009 (yr 0)</td>
<td>-76,468,000</td>
<td></td>
</tr>
<tr>
<td>Petrol</td>
<td>9,000,000</td>
<td>23,732,000</td>
<td>2010 (yr 1)</td>
<td>-374147</td>
<td>18%</td>
</tr>
<tr>
<td>Oil</td>
<td>1,320,000</td>
<td>24,090,500</td>
<td>2011 (Yr 2)</td>
<td>-3731824.91</td>
<td>20%</td>
</tr>
<tr>
<td>Manifest</td>
<td>48,000</td>
<td>24,450,500</td>
<td>2012 (Yr 3)</td>
<td>-11135573.8</td>
<td>25%</td>
</tr>
<tr>
<td>Engine Maintenance</td>
<td>1,500,000</td>
<td>24,810,500</td>
<td>2013 (Yr 4)</td>
<td>-17362848.9</td>
<td>30%</td>
</tr>
<tr>
<td>Net Maintenance</td>
<td>1,800,000</td>
<td>24,810,500</td>
<td>2014 (Yr 5)</td>
<td>-22649632</td>
<td>35%</td>
</tr>
<tr>
<td>Boat Maintenance</td>
<td>800,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine Cost</td>
<td>15,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of Net</td>
<td>20,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of boat (std 5-10)</td>
<td>8,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income (catch +tripattite share, owner)</td>
<td>8,000,000</td>
<td></td>
<td></td>
<td>72,200,000</td>
<td></td>
</tr>
</tbody>
</table>
The Negative Values of NPVs indicates that fishing is unprofitable for this fishing economic units. Fishermen will require very long time to attain positive NPV and profitability at 18% rate of return.
RESULTS: ERA AND FISHERY MANAGEMENT PLANNING

Demersal Species
- Snappers (Lutjanidae)
  - Grouper
  - Croakers
  - Grunts
- Seabreams (Sparidae)
- Molluscs/Gastropods
  - Squid
  - Snails
  - Oysters/Clams
  - Cuttlefish
  - Octopus
  - Crustaceans

Semi/Large Pelagic Species
- Scad mackerel
- Horse mackerel
- Atlantic Bumber
- Barracudas
- Decapterus spp

Small Pelagic Species
- Herring (Sardinella)
  - Bonga
  - Illisha africana

Retained Species

Non Retained Species
- Protected or Special Species
  - Dolphins
  - Sharks and Rays
  - Turtles
  - Manatees
- General Discard Species
  - Jellyfish
- General Discard Species
### 1.1. Management Objective 1: Conservation and sustainable utilization of coastal fishery resources

<table>
<thead>
<tr>
<th>Issues</th>
<th>Operational Objectives</th>
<th>Management Measures</th>
<th>Performance Indicators</th>
<th>Monitoring Schedule Responsibilities</th>
<th>Limit Reference Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge about the fisheries particularly biological and socio-economic information is insufficient</td>
<td>ii. Strengthen knowledge towards responsible fisheries</td>
<td>- On-going adaptive research and use of local knowledge based on agreed procedure</td>
<td>- Reports on various key issues of the fishery</td>
<td>- Continuous Research Unit of MFMR and other Research Institutions, CMAs)</td>
<td>- Social and economic data collection implemented</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Pursue annual stock assessments initiated under the ISFM project</td>
<td>- Reports of annual stock assessments</td>
<td>- MFMRA and WARFP-SL</td>
<td>- Successful completion of annual stock assessments</td>
</tr>
</tbody>
</table>
## RESULTS: FISHERY MANAGEMENT PLANNING

### 1.2. Management Objective 2: Enhance ecosystem well-being by minimizing adverse impacts on the ecosystem

<table>
<thead>
<tr>
<th>ISSUES</th>
<th>Operational Objectives</th>
<th>Management Measures</th>
<th>Performance Indicators</th>
<th>Monitoring Schedule and Resp</th>
<th>Limit Reference Points</th>
</tr>
</thead>
</table>
| Habitats are destroyed by use of inappropriate fishing gear, methods and practices | i. Minimize impacts of fishing operations on fisheries habitats | - Undertake substantive awareness campaigns  
- Assist operators to understand and apply the principles of the Code of Conduct for Responsible Fisheries  
- Prohibition of the use of illegal and undersized mesh nets | - Number of population briefed, public meetings, TV and Radio programmes  
- Number of campaigns organized, Number of fishers contacted  
- Reduction by 80% by year 4 of the number of fishers using illegal and undersized nets | - MFMRA, SLAFU, SLAAFU and CMAs  
MFMRA and CMAs  
- SLAFU, SLAAFU and CMA  
- MFMRA and CMAs  
- Successful implementation of awareness campaigns in all major fishing communities  
- Successful implementation by WARFP-SL on gear replacement component of its project  
- Decrease use of mangrove fuel | - Successful implementation of awareness campaigns in all major fishing communities  
- Successful implementation by WARFP-SL on gear replacement component of its project  
- Decrease use of mangrove fuel |
RESULTS: DECLARED MPAS of SL

✓ The fishery dependent data including fishers knowledge was therefore used to map vulnerable areas within the major river systems now declared as MPAs.
SL MPAS- YAWRI BAY

The Yawri Bay

SP: Spawning Ground
T: Turtle

Zone identified as Marine Protected Area

CONCLUSIONS AND THE WAY FORWARD FOR EFFECTIVE MPA MGT.

✓ 31 CMAs formed can serve as key co-management structure for the MPAs

✓ However, these CMAs should work with existing local stakeholders in managing the MPAs

✓ The CMAs formed require sensitization and their roles must be defined

✓ The fishery management plan must be implemented in collaboration with the CMAs

✓ Artisanal Fishing fleet capacity of 10,700 is already high, therefore capping fleet number must be considered
CONCLUSIONS AND THE WAY FORWARD

- Women should particularly be sensitized and encouraged to participate in the co-management process for MPAs.

- The major livelihood activity in most of the coastal communities of Sierra Leone is fishing, but Fisheries investment is currently unprofitable and the incentive to accrue optimal fishery benefits is affected by illegal fishing, weak capital asset, poor road networks and inadequate fish processing and storage facilities.
CONCLUSIONS AND THE WAY FORWARD

✓ The issue of external Factors such as impact of climate change on coastal communities And adaptation should Be a priority

✓ Plantain Island in the Yawri Bay MPA is under Severe inundation as a result of coastal erosions driven by sea level rises
CONCLUSIONS AND THE WAY FORWARD

- Fishers testify that vessel monitoring systems (VMS) installed on trawlers have reduced trawler incursion in the IEZ with improved catches.

- The stock status shows that the clupeids (PELAGIC 2 category) are closed to being overexploited as the MSY is nearing the biomass and exploitation ratios are high and most catches constitute juveniles.

- These findings support the establishment of MPAs, the development of management plan for the marine small scale fishery and the use of VMS on trawlers to be used as tools for sustainable fishery management in Sierra Leone.
ACKNOWLEDGEMENTS

✓ World Bank Funded West African Regional Fisheries Programme in Sierra Leone (WARFP-SL)

✓ NEPAD Planning and Coordinating Agency (NPCA) long term policy support to the Ministry of Fisheries and marine resources through the West African Pilot Project (WAPP)

✓ EAF-Nansen Baby Project: Improving artisanal fisheries management in Sierra Leone and Liberia

✓ Staff of Ministry of Fisheries and Marine Resources
REFERENCES


REFERENCES


✓ Fisheries of Sierra Leone, 3rd Edition (2008)
CO-MANAGED MPAs CAN MINIMIZE ILLEGAL FISHING IN THE MARINE SMALL SCALE FISHERY OF SL

I THANK YOUR FOR YOUR KIND ATTENTION !!!