Understanding the Role of Women in Achieving Triple Bottom Line Outcomes for Fisheries Systems

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Taryn Garlock, Institute for Sustainable Food Systems, University of Florida
Jennifer Meredith, University of Washington / Seattle Pacific University
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Christopher Anderson, University of Washington

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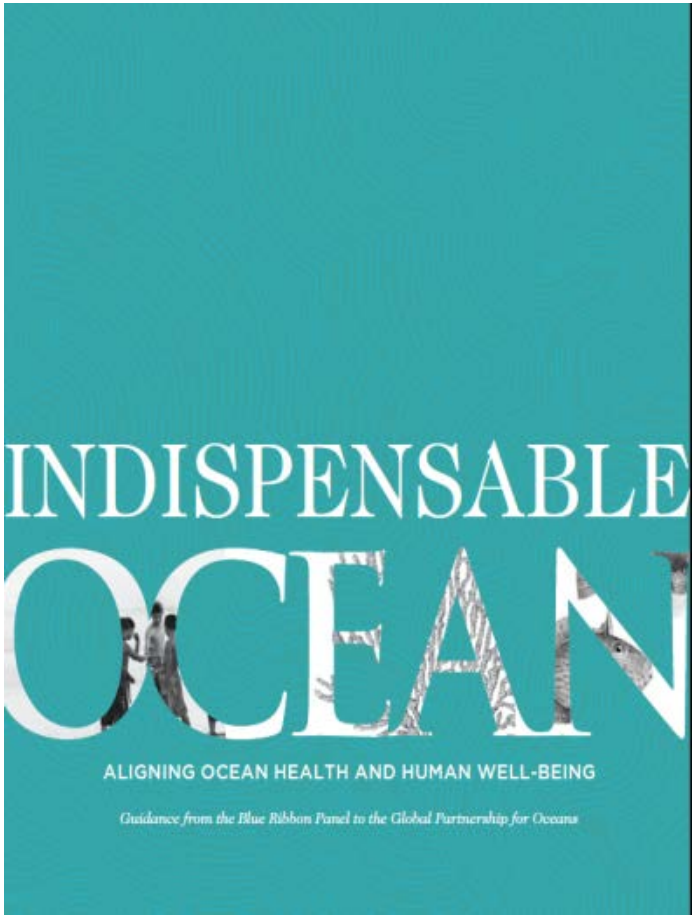

The Blue Ribbon Panel

Chair: Ove Hoegh-Guldberg, Director of Global Change Institute, University of Queensland
Transform Aqorau Deputy DG/Director, Forum Fisheries Agency/Parties of Nauru Agreement
Ragnar Arnason Professor, University of Iceland
Thiraphong Chansiri President ,Thai Union Foods
Nelson Del Rio Chairman, Emergent Intelligence Solutions
Henry Demone President and CEO, High Liner Foods Inc., Canada
Sylvia Earle Founder Mission, Blue/Sylvia Earle Alliance
Missy H. Feeley Chief Geoscientist, ExxonMobil Corporation
Dimitri Gutierrez Director of Oceanographic Investigation, Institute of Sea of Peru
Ray Hilborn Professor of Aquatic and Fisheries Science, University of Washington
Naoko Ishii CEO and Chairperson, Global Environment Facility
Chris Lischewski President and CEO, Bumble Bee Foods
Jane Lubchenco, Former Admin of NOAA; Professor Oregon State University
Kim Anh Nguyen, Director, NOMA-FAME Program, University of Nha Trang, Vietnam
David Obura Director, CORDIO East Africa, Kenya
Rolph Payet FRGS Minister for Environment and Energy, Pro-Chancellor University of Seychelles
Neroni Slade Secretary General, Pacific Islands Forum
John Tanzer Director, Global Marine Programme WWF International
Johan H. Williams Specialist Director, Ministry of Fisheries Ministry of Fisheries and Coastal Affairs
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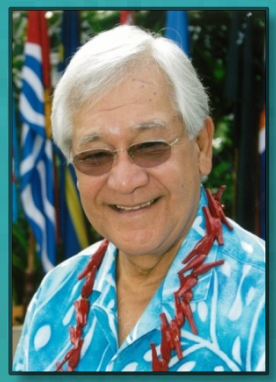
Thiraphong Chansiri
President
Thai Union Foods

Sylvia Earle
Founder
Mission Blue



H.E. Neroni Slade
Secretary General
Pacific Islands Forum

Chris Lischewski
CEO
Bumble Bee Foods

David Obura
Founding Director
CORDIO, East Africa

Naoko Ishii
CEO
Global Environment Facility

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"…we must recognize that the well-being of communities, viability of economies, and sustainability of ecosystems are intricately linked."

"…solutions must be multidimensional and integrate **all aspects of the socio-ecological system**."

BRP on Measurement and Capacity

"A **multidimensional indicator** system …needs to be designed as an integral part of the measurement process."

Establish "**global networks of expertise and research**"

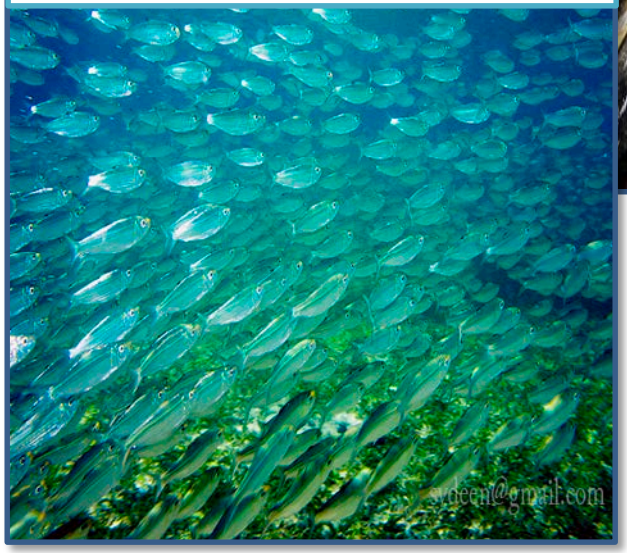
What Are the FPIs?

- A **rapid assessment instrument** for measuring economic, community and ecological outcomes in fishery management systems.
- Are designed to **evaluate and compare the world's fisheries** management systems – both in developed and developing; data-rich and data-poor regions.
- Are designed to evaluate the **effectiveness of investment, reforms and interventions** in fishery management systems.

The Triple Bottom Line

ECONOMIC PERFORMANCE

ECOLOGICAL PERFORMANCE



COMMUNITY PERFORMANCE

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New Tool – Fishery Performance Indicators

Features 1: Multi-Dimensions

Feature 2: Easy to Measure

Feature 3: Output Results & Input Factors

- Fish Stock and Ecology
- Harvest Efficiency
- Harvest & Post-harvest Assets
- Risk Exposure
- Value added & Market
- Management returns
- Labor Returns
- Community Services
- Labor Conditions

Relationship

- Macro Factors
- Rights Exposure
- Co-Management
- Management Practices
- Markets & Market Institutions
- Infrastructure

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PLOS ONE

RESEARCH ARTICLE

The Fishery Performance Indicators: A Management Tool for Triple Bottom Line Outcomes

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Abstract

Pursuit of the triple bottom line of economic, community and ecological sustainability has increased the complexity of fishery management; fisheries assessments require new types of data and analysis to guide science-based policy in addition to traditional biological information and modeling. We introduce the Fishery Performance Indicators (FPIs), a broadly

d support in the form of

Plos One, 2015

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0122809)

The Fishery Performance Indicators: A Management Tool for Triple Bottom Line Outcomes

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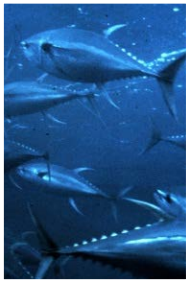
Fishery Performance Indicators - Outputs

68 simple metrics covering 14 dimensions, 3 components



Ecological Sustainability

- Fish Stock Health & Environmental Performance

Harvest Sector

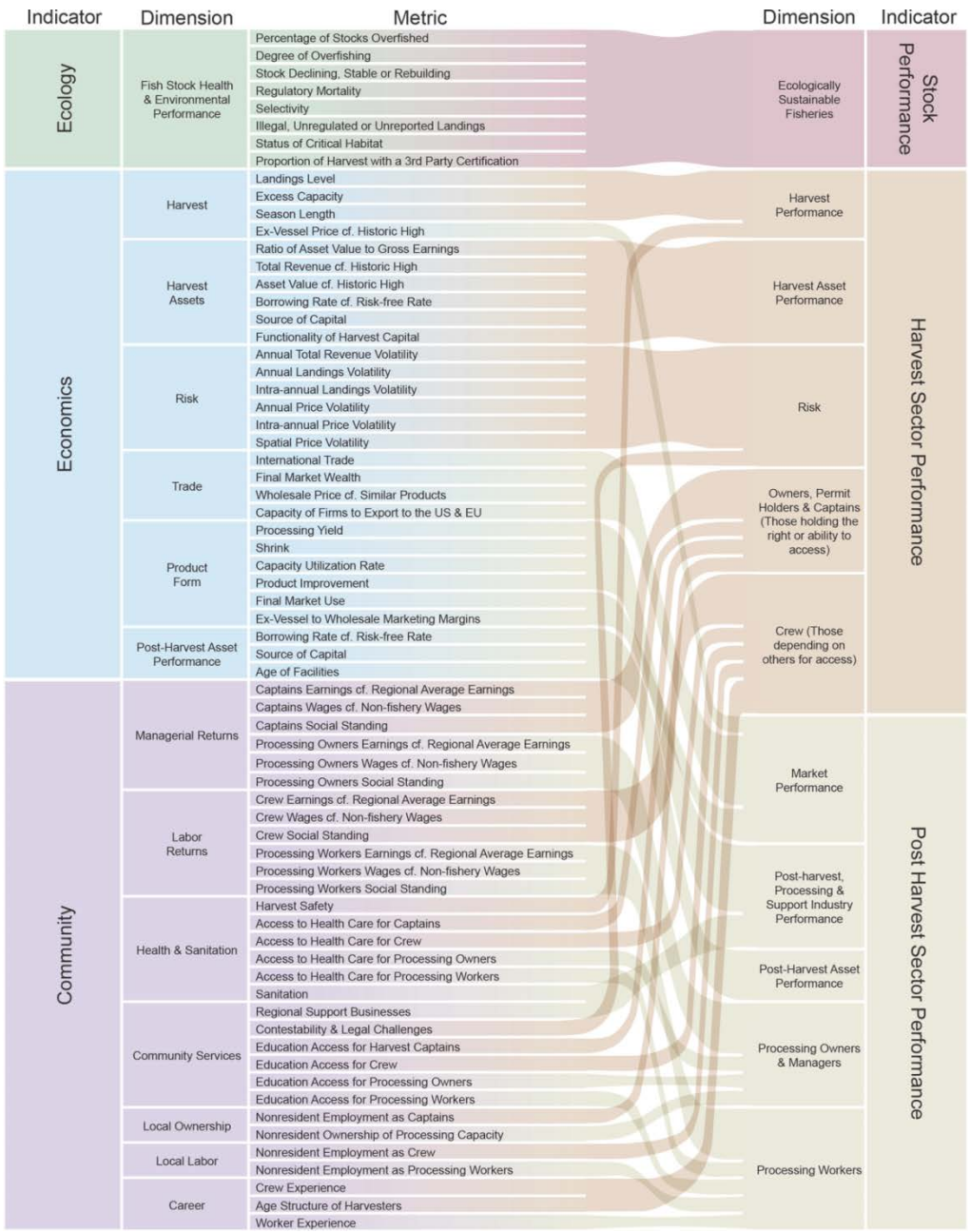
- Harvest Performance
- Harvest Asset Performance
- Economic Risk Exposure
- Owners, Permit Holders & Captains
- Crew

Post-Harvest Sector

- Market Performance
- Processing & Support Industry Performance
- Post-harvest Asset Performance
- Processing Owners & Managers
- Processing Workers

FPI Outputs

- **14 Dimensions**
- **68 metrics**
- **Two ways of Grouping:**
  - Triple-Bottom Line
  - Along the value Chain
- **Metrics**
  - Metrics are scored 1-5, with the bins generally chosen to reflect the quintiles of performance on the metric globally



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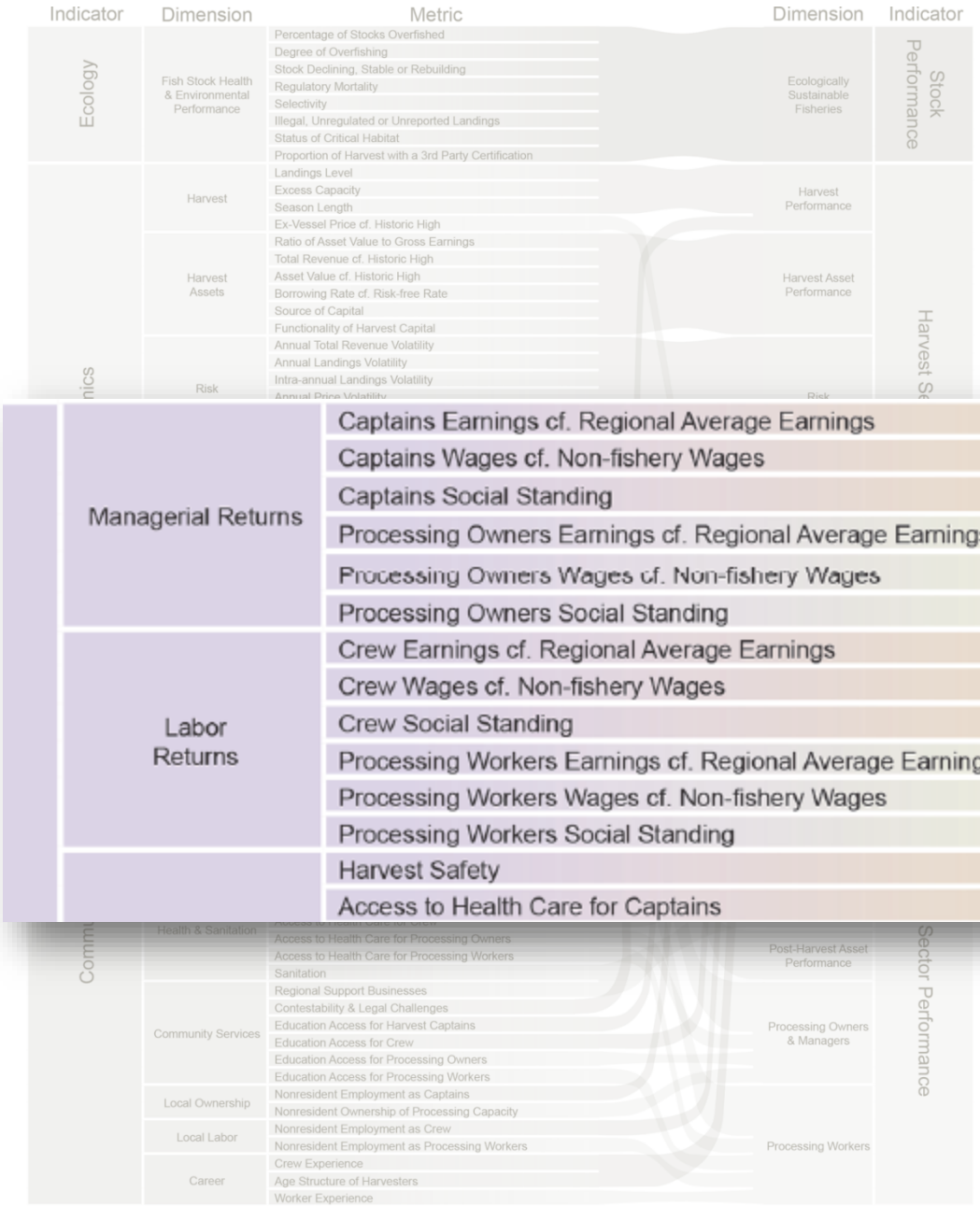


FPI Inputs

- 15 Dimensions
-

Component	Dimension	Measure
Macro Factors	National Environmental Performance	Environmental Performance Index (EPI)
	Environmental Risk	Disease and Pathogens
		Natural Disasters and Catastrophes
		Pollution Shocks and Accidents
		Level of Chronic Pollution (Stock Effects)
		Level of Chronic Pollution (Consumption Effects)
	National Governance	Governance Quality
		Governance Responsiveness
	National Economics	Index of Economic Freedom
		Gross Domestic Product (GDP) Per Capita
& Responsibility	Access Rights	Proportion of Harvest Managed Under Limited Access
		Transferability Index
		Security Index
		Durability Index
		Flexibility Index
		Exclusivity Index
		Proportion of Harvest Managed with Rights-based Management
		Transferability Index
Manage	Data	Data Availability
		Data Analysis
	Management Methods	MPAs and Sanctuaries
		Spatial Management
		Fishing Mortality Limits
Post-Harvest	Markets & Market Institutions	Landings Pricing System
		Availability of Ex-vessel Price & Quantity Information
		Number of Buyers
		Degree of Vertical Integration
		Level of Tariffs
		Level of Non-tariff Barriers
	Infrastructure	International Shipping Service
		Road Quality Index
		Technology Adoption
		Extension Service
		Reliability of Utilities/Electricity
		Access to Ice & Refrigeration

Gender

Business Management Influence

Resource Management Influence

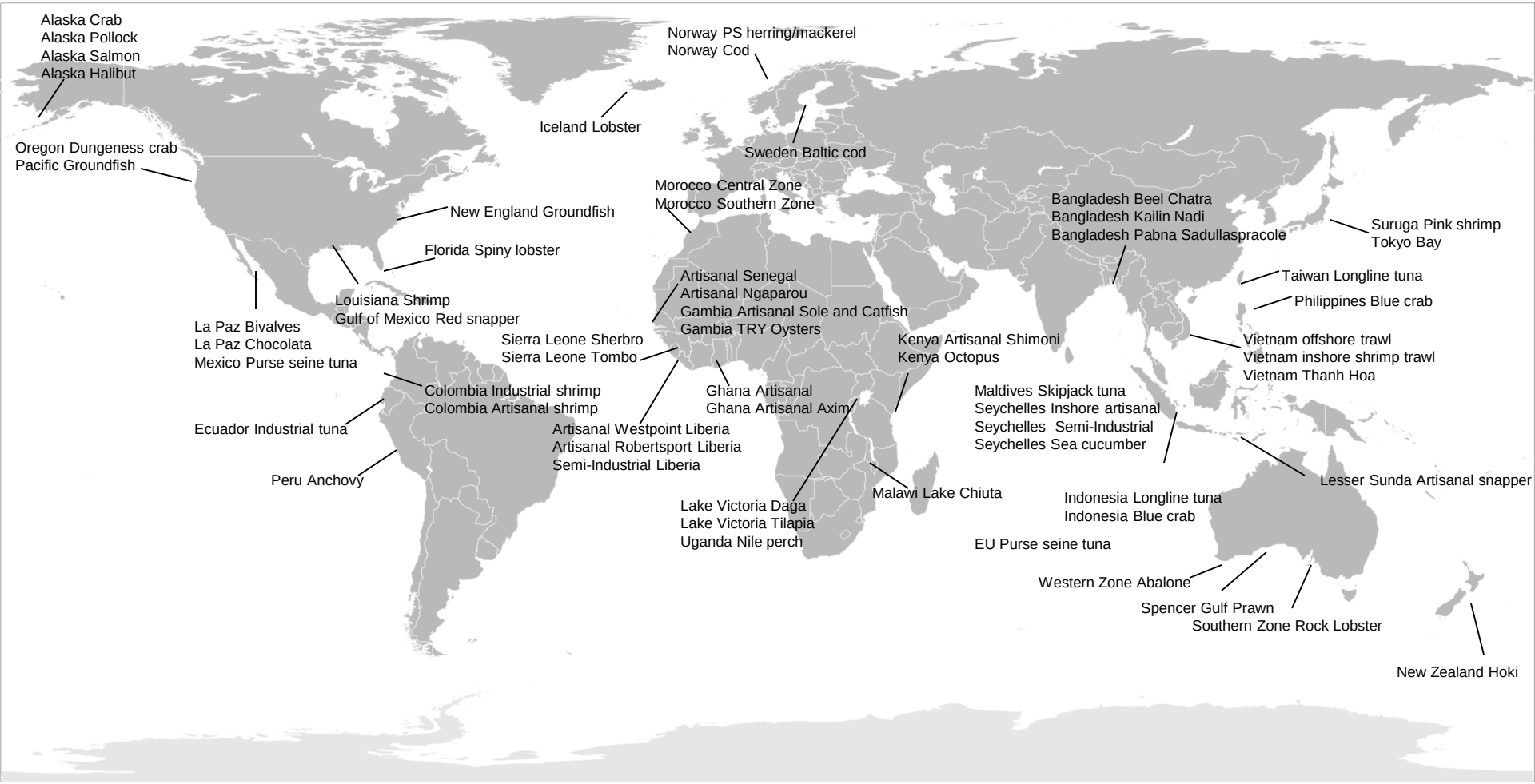
Labor Participation in Harvest Sector

Labor Participation in Post-Harvest Sector

Gender Scoring

Labor Participation in the Harvest Sector: Proportion of those involved in the harvest sector labor pool, either as captains or crew who are women.

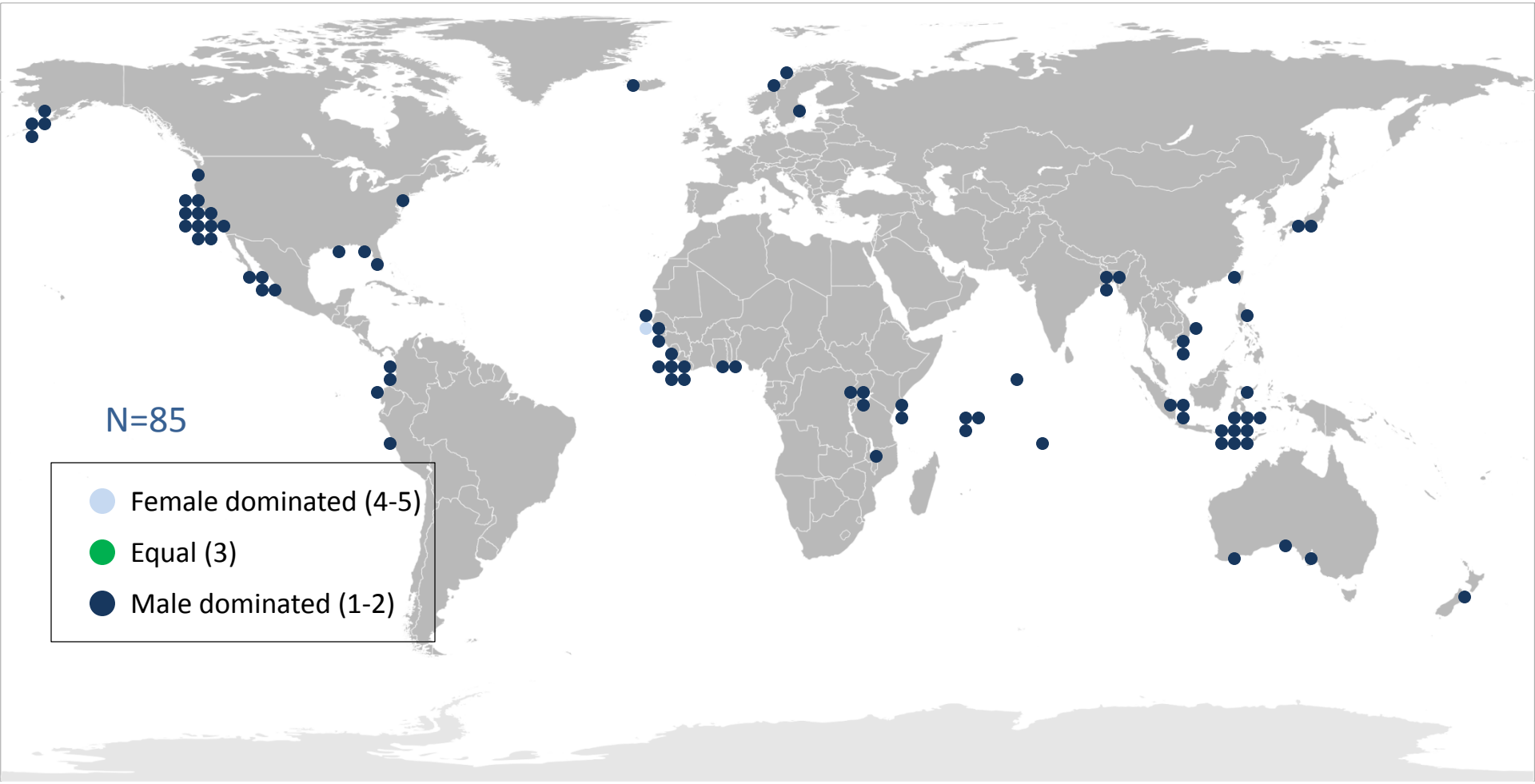
Score	Description
5	80-100% are women
4	60-80% are women
3	40-60% are women
2	20-40% are women
1	Less than 20% are women



FPI Database 2015

N=65

Labor Participation in Harvest Sector



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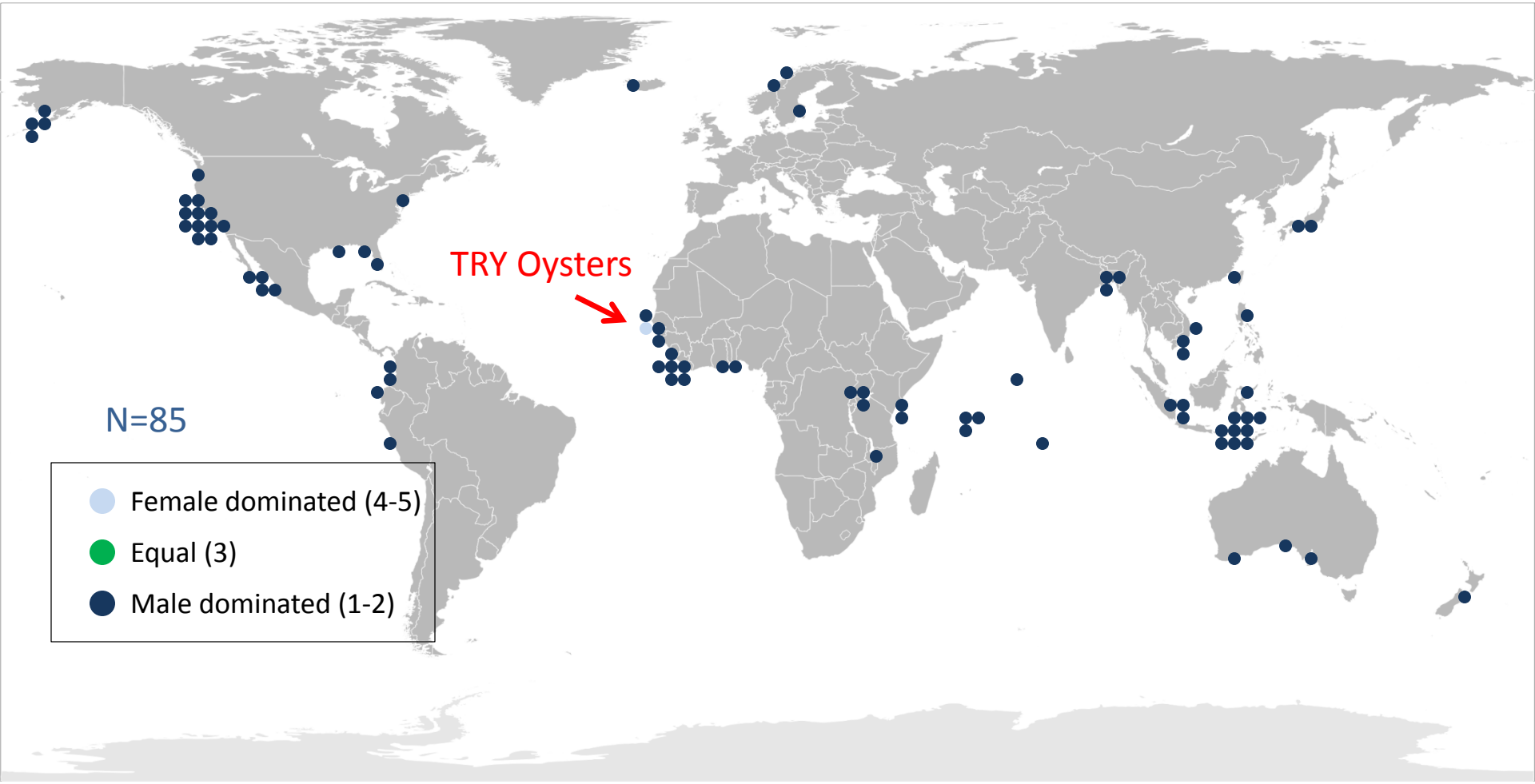
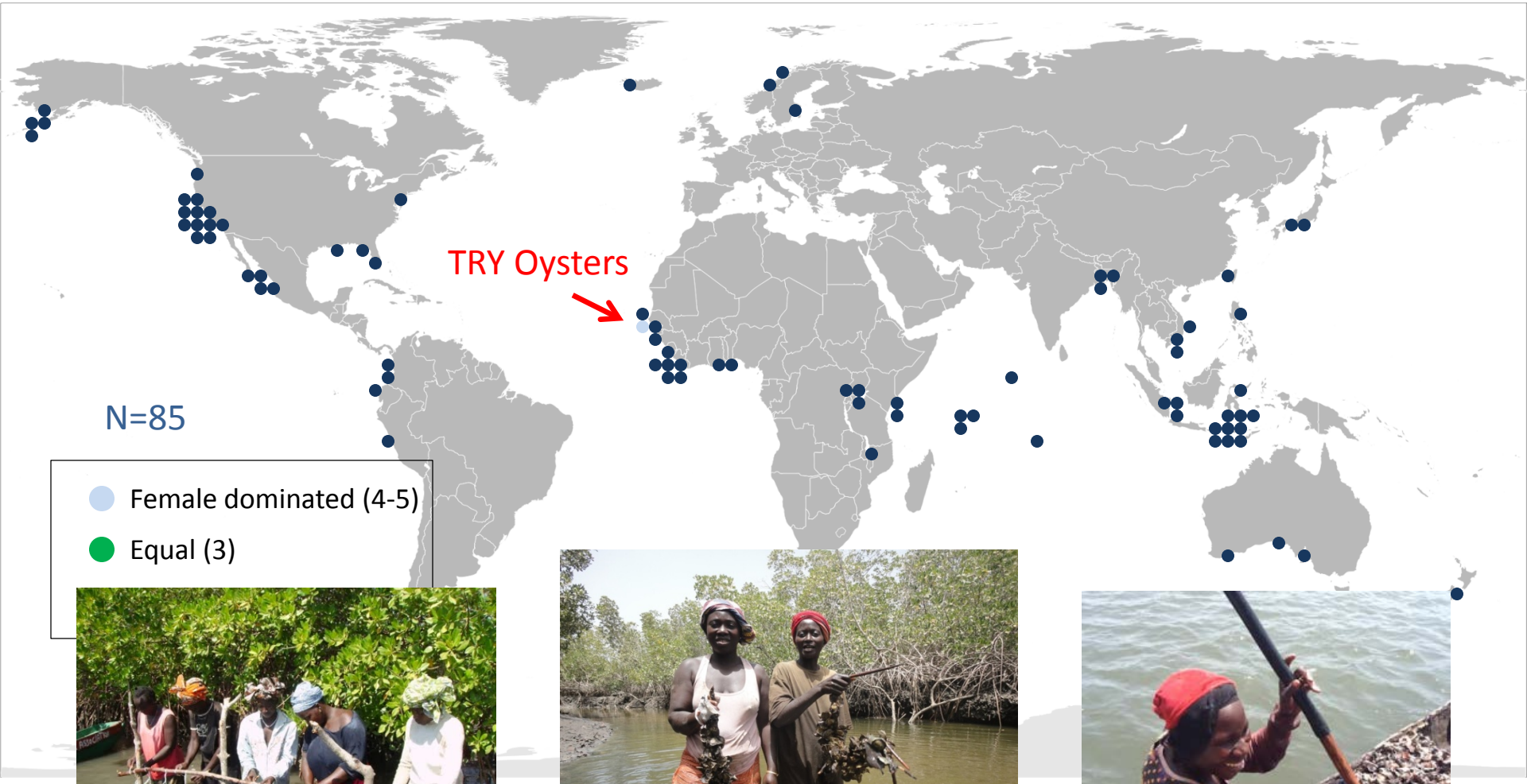
Labor Participation in Harvest Sector



Labor Participation in Harvest Sector



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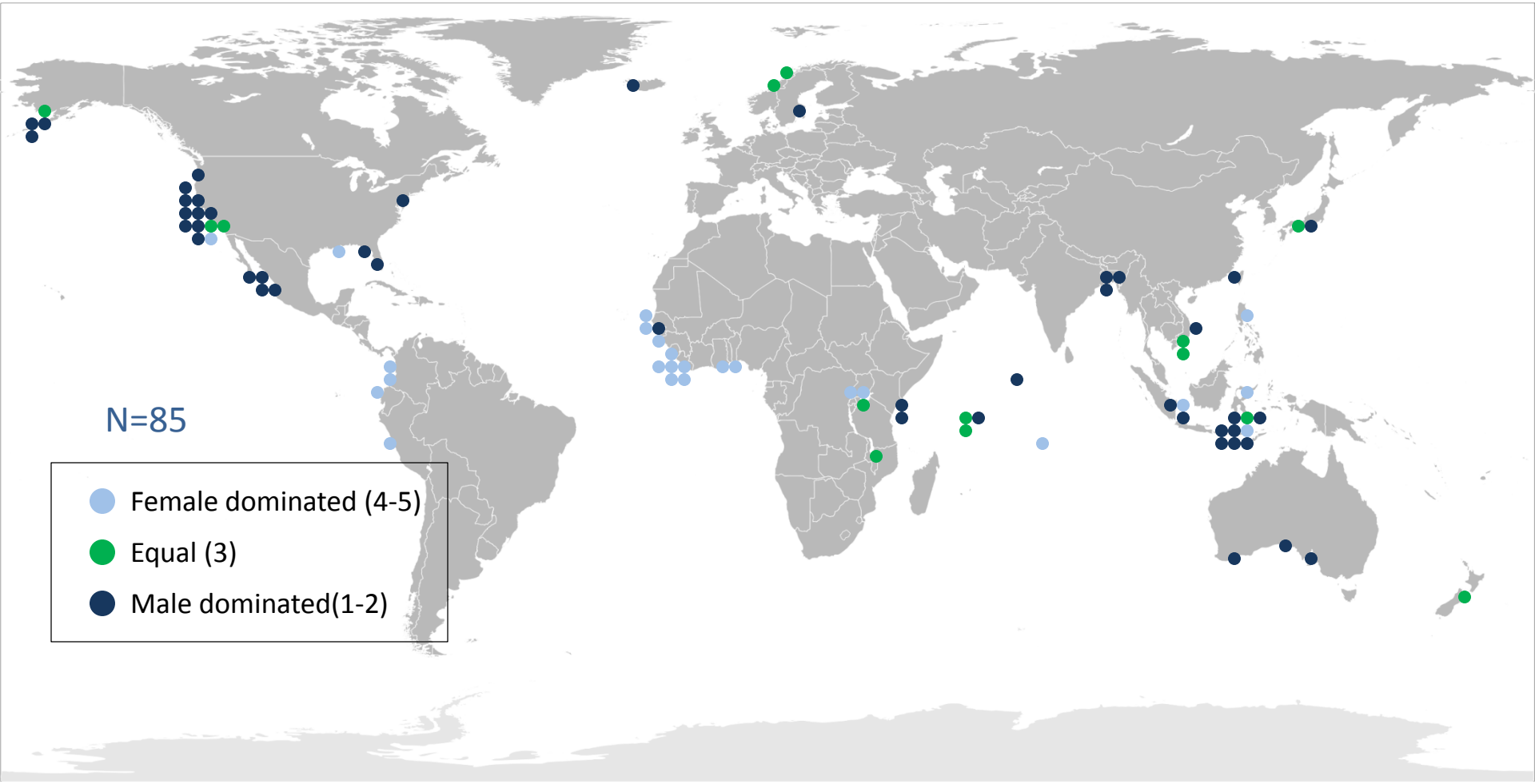
Labor Participation in Post-Harvest Sector



Labor Participation in Post-Harvest Sector

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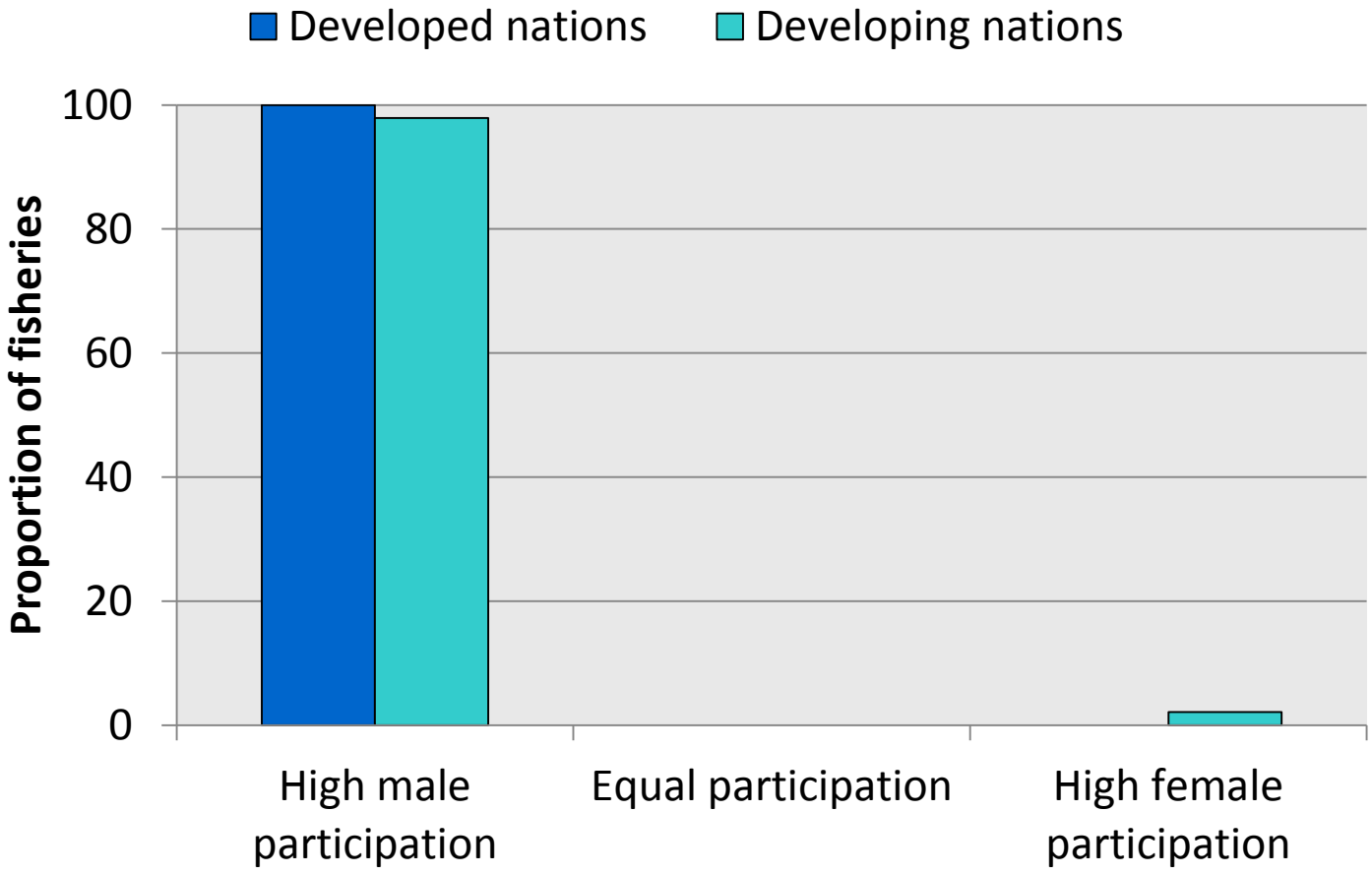
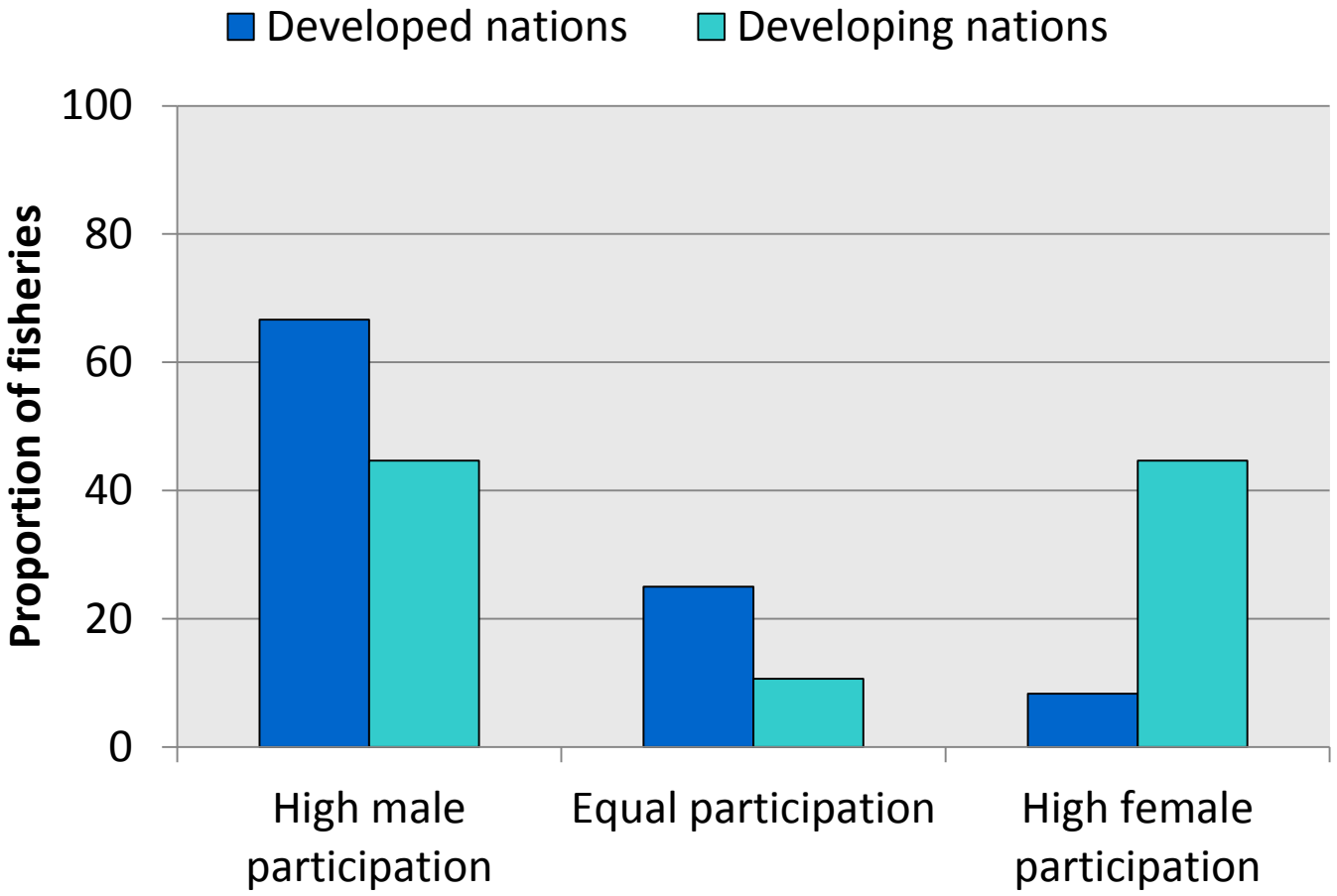
Gender Participation in Harvest



Gender Participation in Post-Harvest



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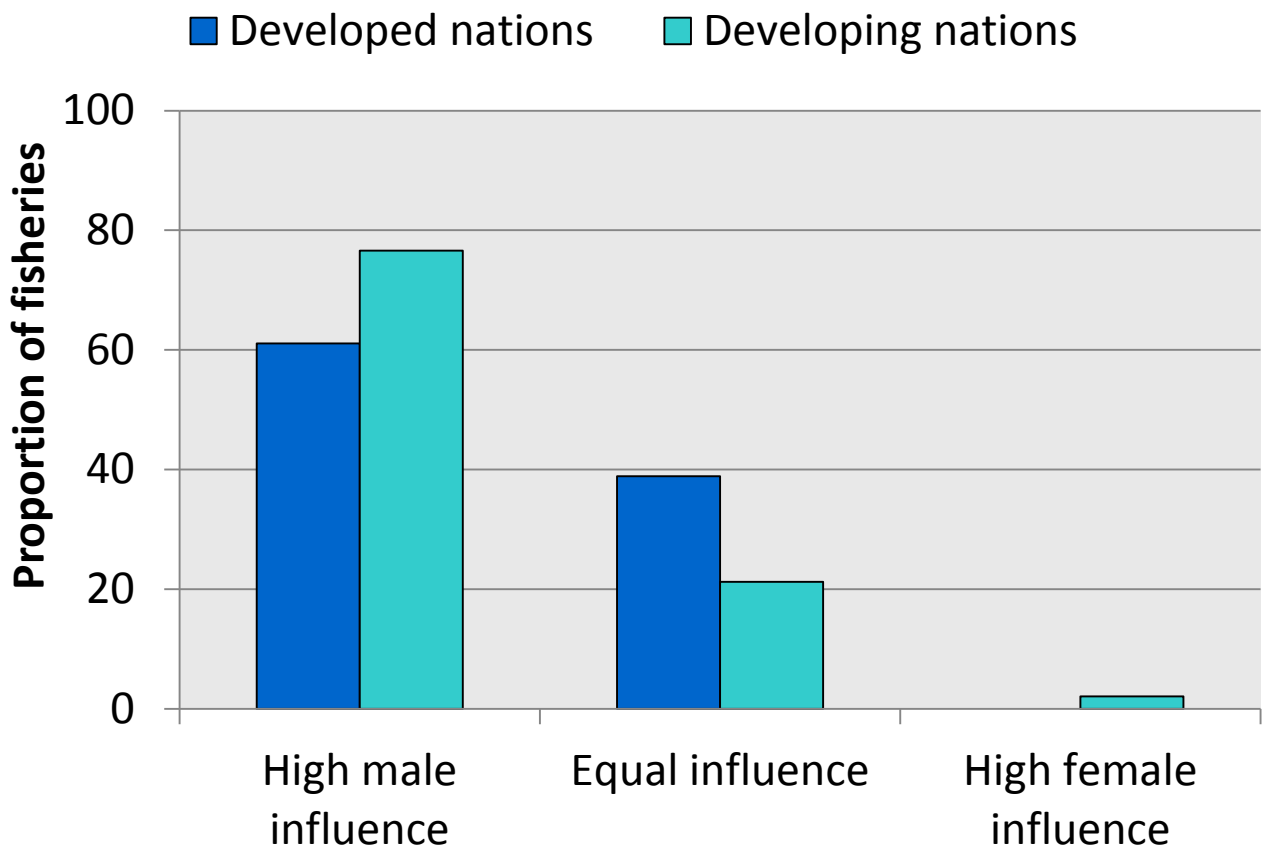
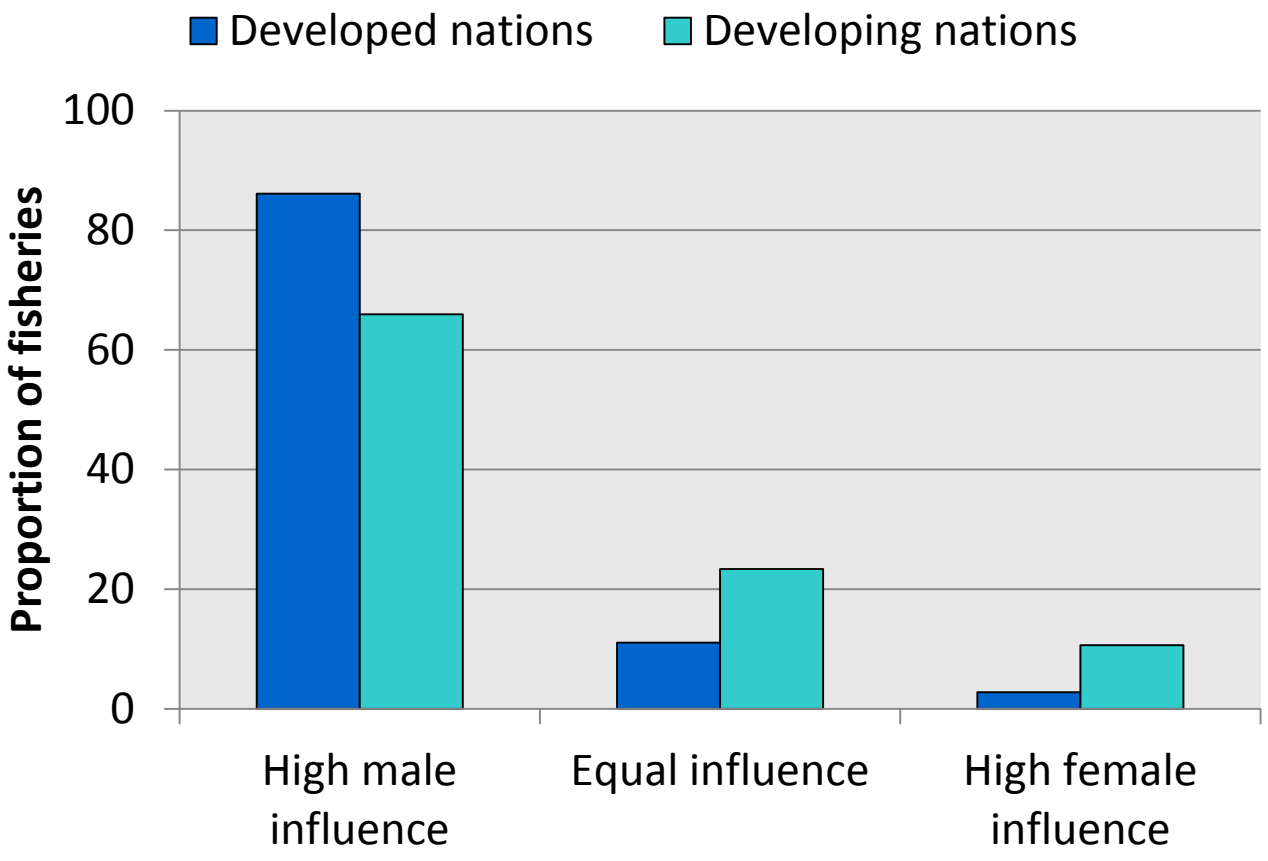
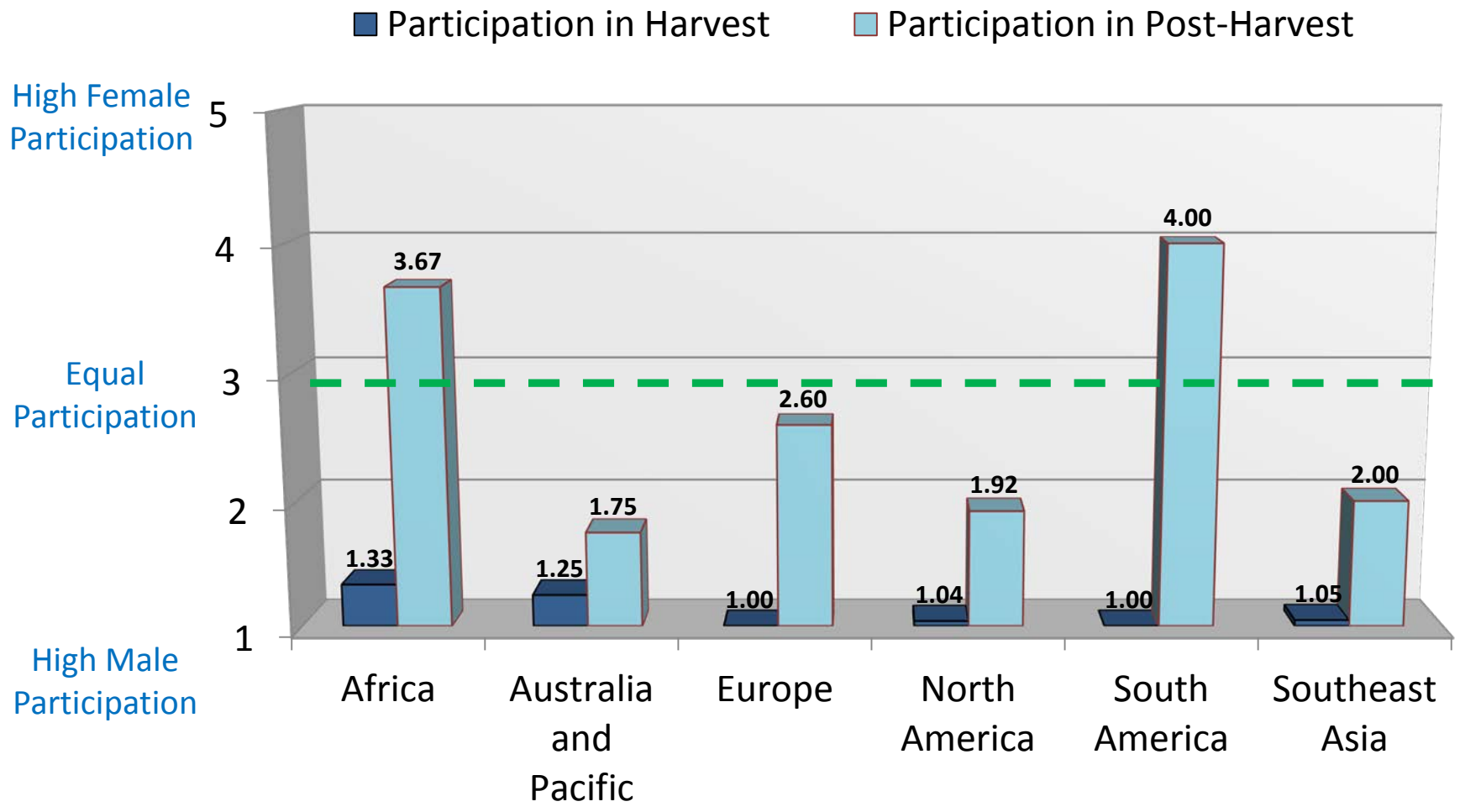
Gender Influence in Management



Gender Influence in Business



Gender Participation



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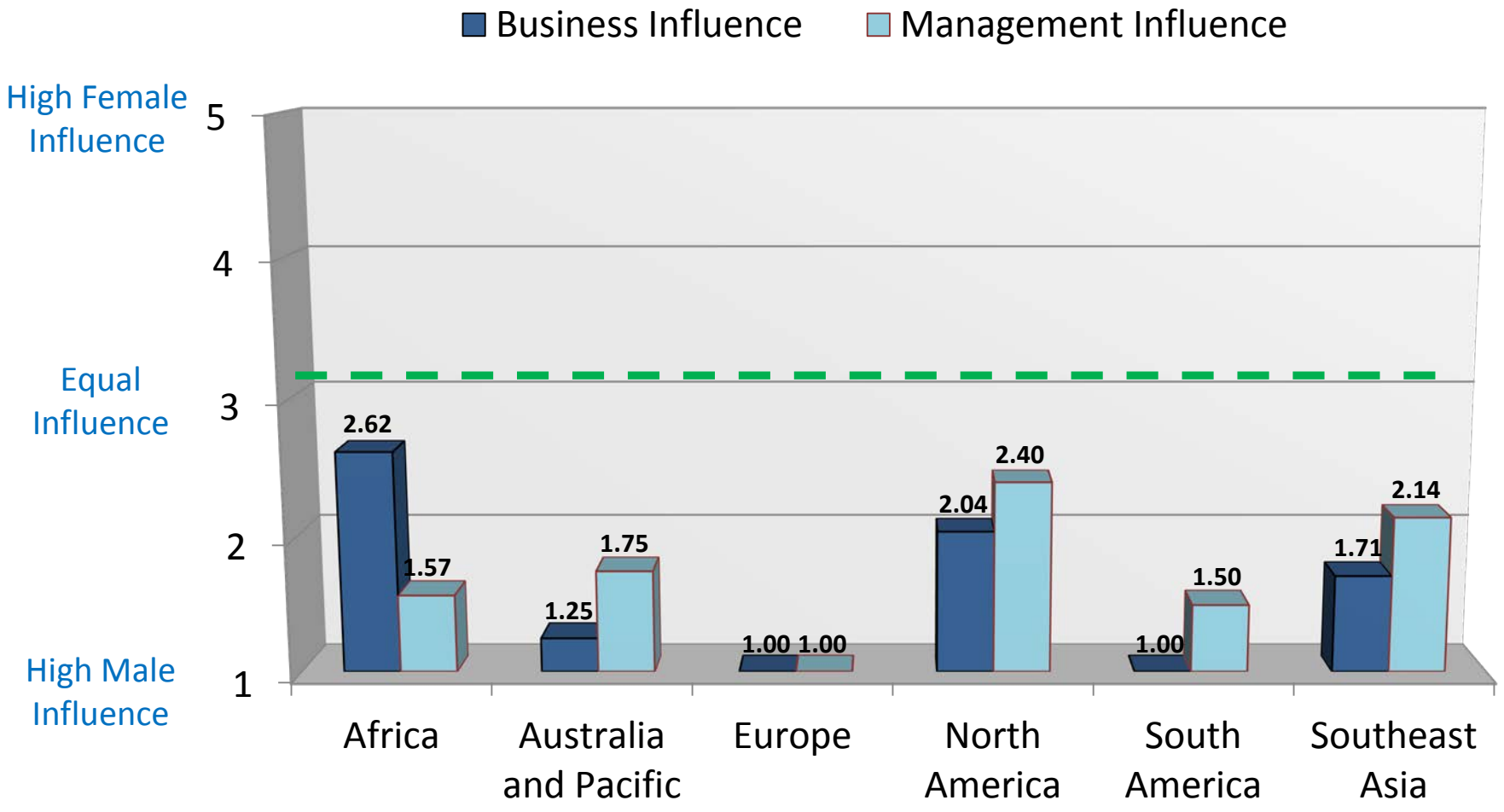
Gender Influence



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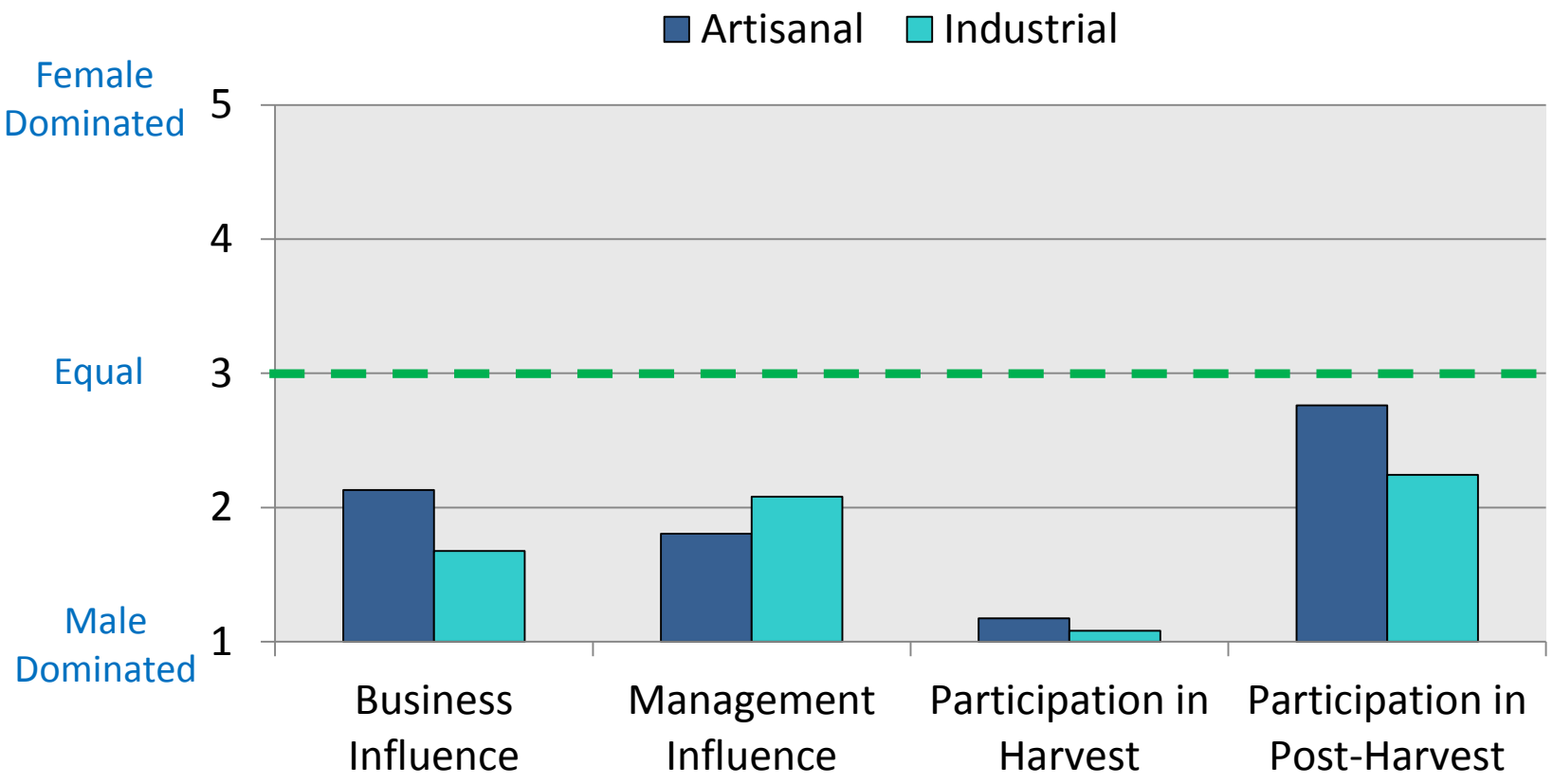
Small-Scale Fisheries



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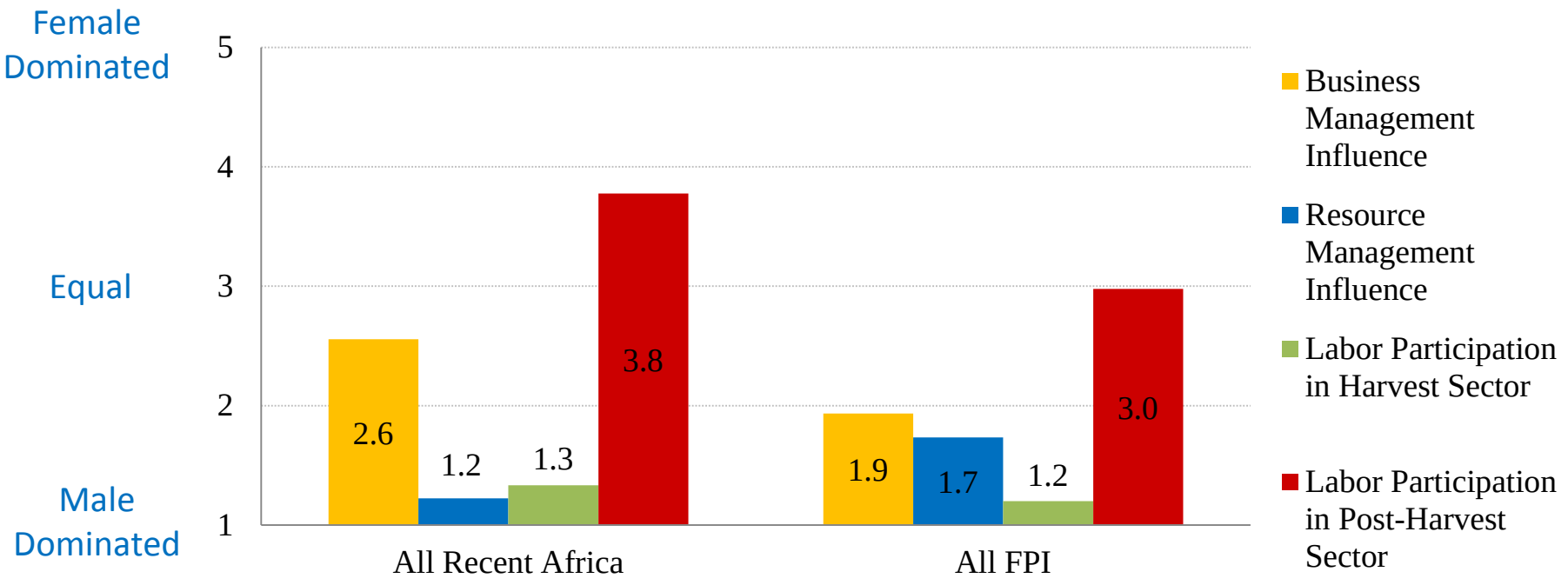
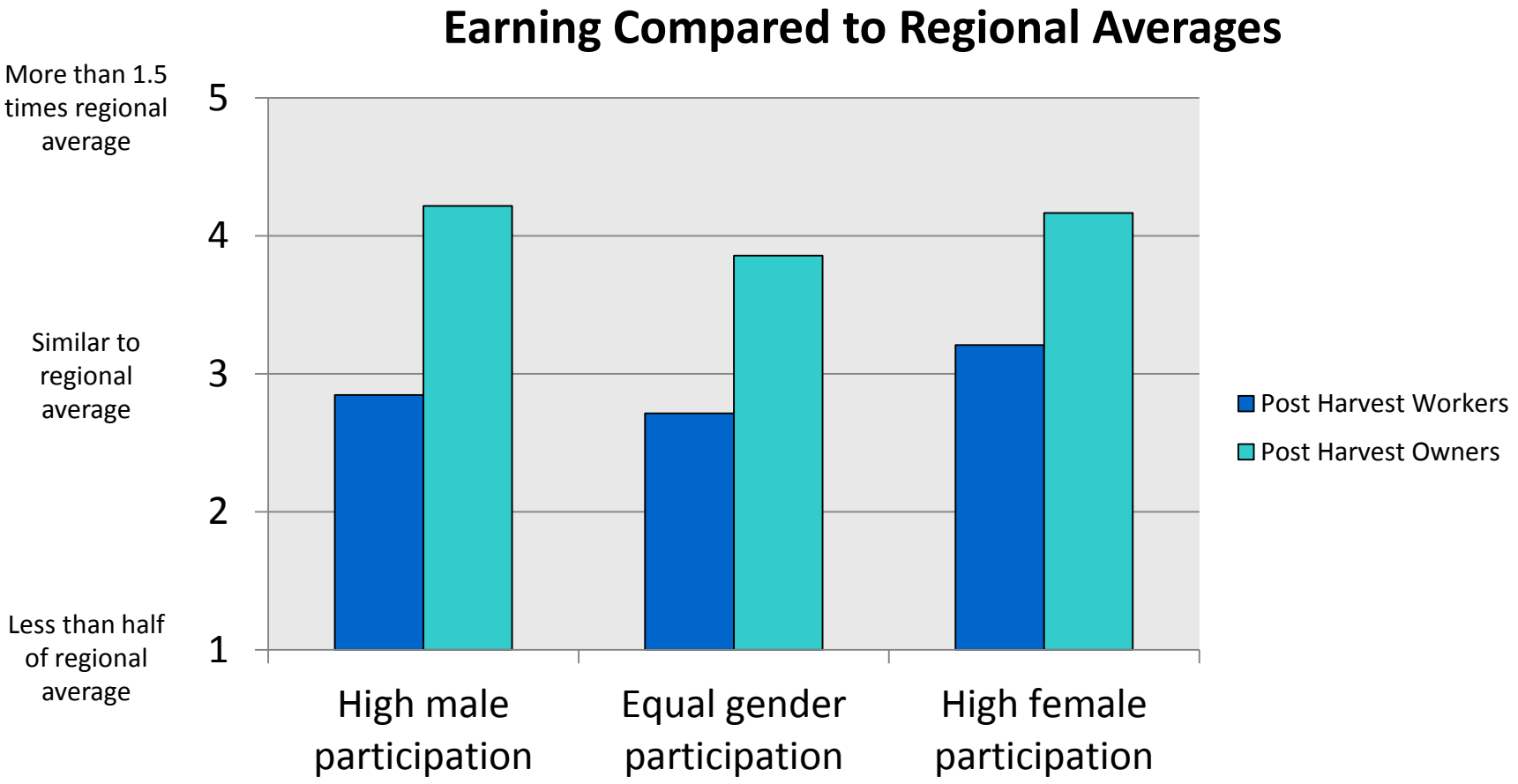
Gender


Female Dominated
Equal
Male Dominated
5
4
3
2
1
2.6
1.2
1.3
3.8
1.9
1.7
1.2
3.0
All Recent Africa
All FPI
Business Management Influence
Resource Management Influence
Labor Participation in Harvest Sector
Labor Participation in Post-Harvest Sector

Income Comparison



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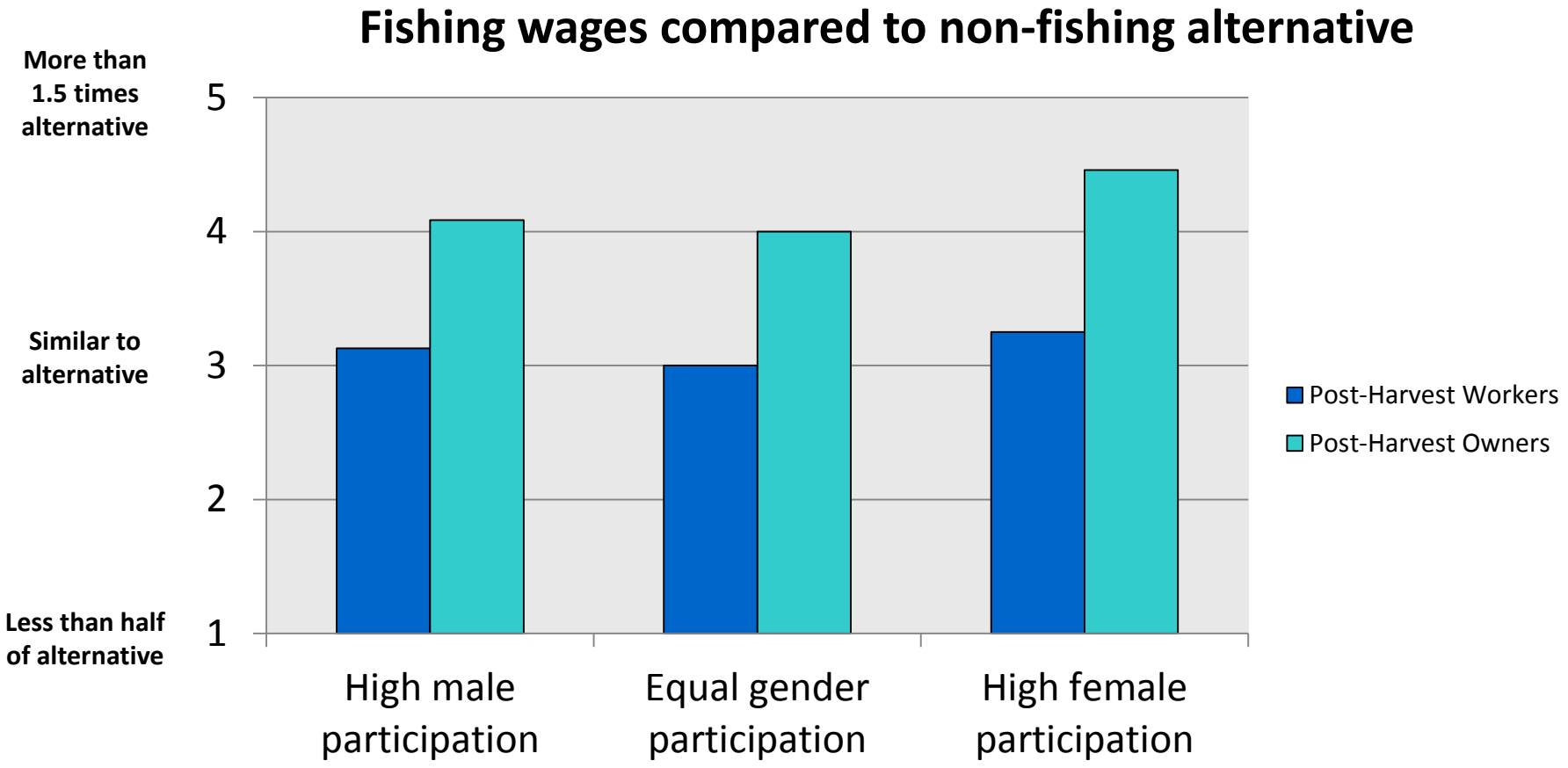

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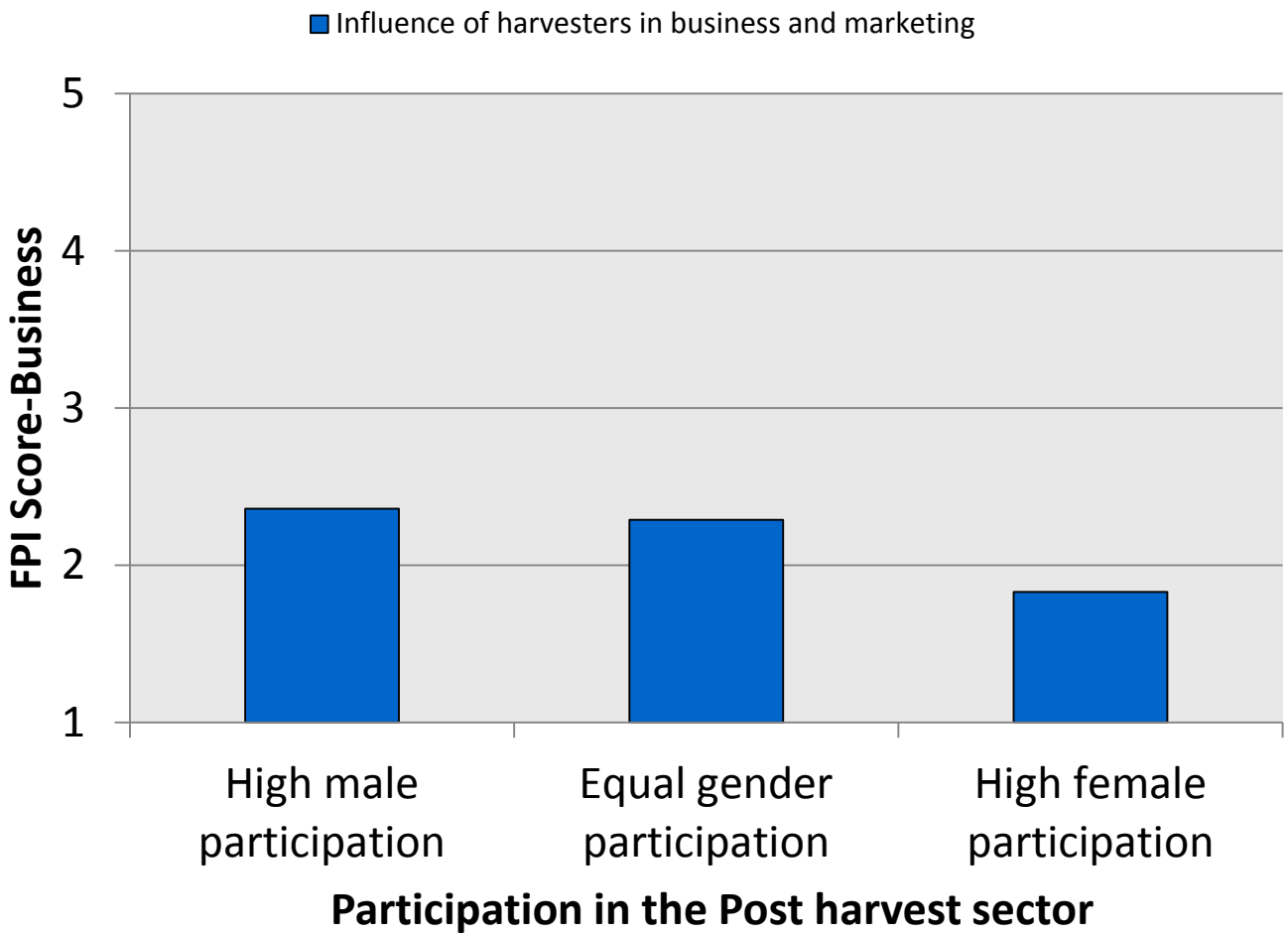
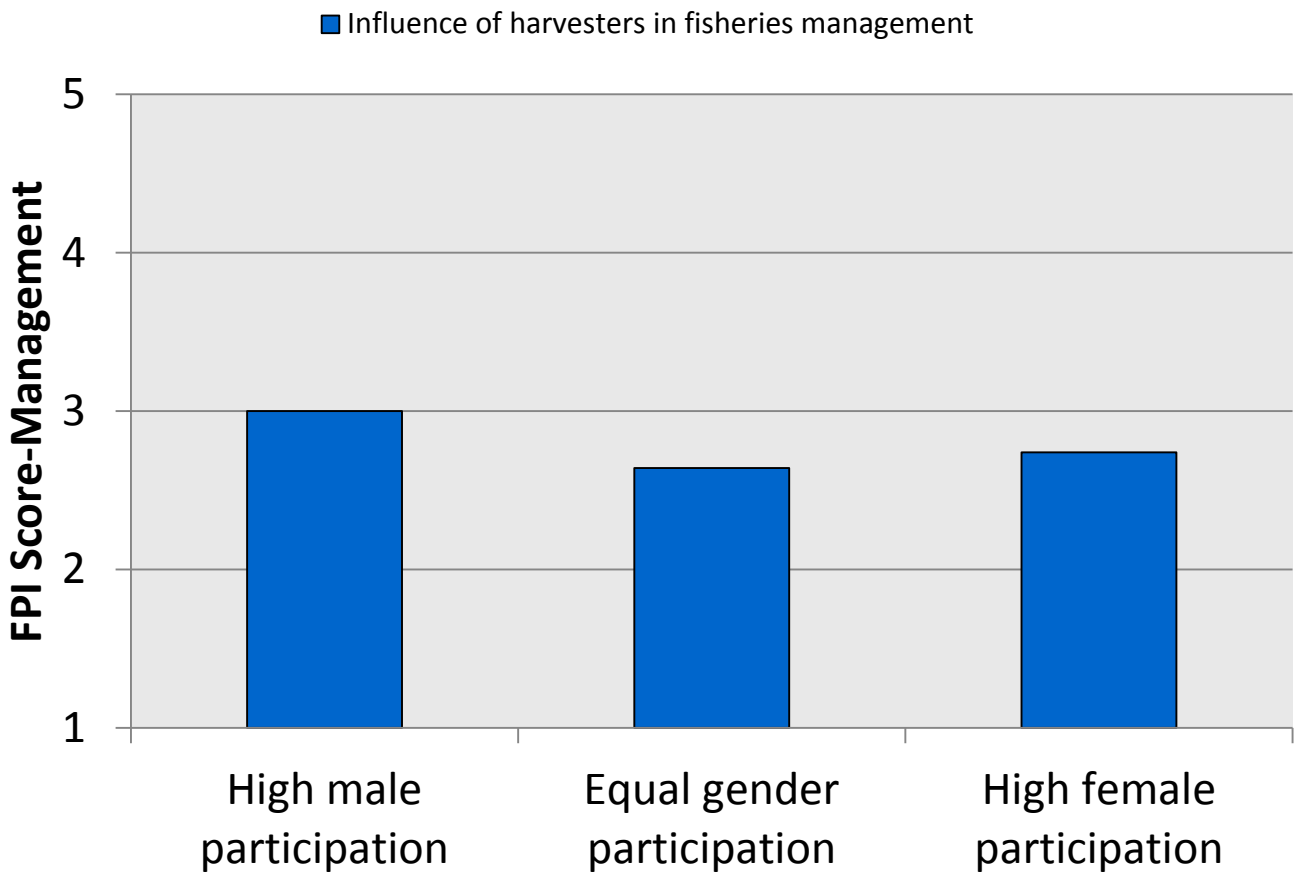
Influence on Business



Influence on Management



Thank You