

Supplementary materials:

Table A1. Summary of countries surveyed, management approaches and objectives, and relevant gender dynamics.

Country	Management approach(es)	Key management objectives	Gender dynamics
Fiji	Locally Managed Marine Areas (LMMAs) with <i>Tabu</i> closure areas and customary fishing access for adjacent communities (Jupiter et al. 2014)	Food security; To have fish for the future; Protect traditional practices and places; Replenish fish stocks	Both women and men fish for subsistence and commercially; women are important in food provisioning via gleaning and other subsistence fishing, but these activities are not well-recognized or accounted for. Management activities have aimed to elevate role of women in fisheries, recognizing their importance, empowering them to participate in fisheries management (Giffin et al. 2019; Mangubhai et al. 2017; 2019; Thomas et al. 2020; 2021)
Kenya	Marine parks <i>tengefu</i> (community conservation area); Beach Management Units (BMU)	Sustainable use balance between earning money and fairness in decision-making	Participation in coastal livelihoods is highly gendered, with men and women using, experiencing and benefiting from ecosystem services in different ways. Women are predominantly involved in fisheries value chains as fish traders, known as <i>Mama karanga</i> . Women lack visibility and voice in fisheries decision-making and have limited alternative livelihood options, due to low levels of education and lack of capital (Abunge et al. 2013; Matsue et al. 2014; Fortnam et al. 2019)
Indonesia	MPA with varying restrictions from no-take to open access	Protect habitats and species, Have fish for the future; Sustainable utilization and community well-being	Men are considered to have better knowledge of fisheries management and fisheries practice than women who fish, because fishing is a male-dominated activity and women are generally less involved in public issues within the community, thus, women have less influence in decision-making than men

			and are underrepresented in marine and habitat management. (Fitriana and Stacey 2012; Matthews et al. 2012; Alami and Raharjo 2017). Women are predominantly involved in fisheries value chains as fish sellers (De Silva 2011).
Madagascar	No take in some places; Area, gear, time and/or species restrictions in others	Reef protection and reef fish management	Malagasy societies were once matriarchal, with women having prominent roles in succession and transmission of power and in politics. Through the processes of colonization and migration, new influences, religions, and value systems transformed gender relations. Today, Malagasy societies are more patriarchal, especially in certain regions, with women primarily responsible for household activities and, outside the home, face economic exclusion and have a limited role in decision-making. In coastal and reef fisheries, women engage in reef gleaning and other foot fisheries, while men fish from boats, via scuba diving or using hook and line. (Amirell 2015; IGG 2020; Gezon 2002; Westerman & Benbow 2013)
Papua New Guinea	Locally Managed Marine Areas (LMMAs); Customary marine tenure areas (<i>Tambu</i> and clan-based areas)	Sustainable use	Women dominate gleaning, processing and trading activities, as well as farming, housework and childcare. Men are more often engaged in salaried employment than women and within fisheries and tourism sectors. Gender norms constrain women in their participation in management and decision-making because of their caregiving and household responsibilities and low levels of literacy and education (Matthews et al. 2012)
Solomon Islands	Locally Managed Marine Areas (LMMAs) – some	Keep people from outside the community from	Both women and men participate in fishing activities, but often focus on different habitats, species, and gears;

	with no take fishery closure areas (closed year-round; all gears prohibited), while others are customary marine tenure areas (allow limited use for cultural functions)	fishing; To have fish for the future	Men tend to fish outer reef and open-water areas from dugout canoes while women fish inshore waters and reef areas on foot and by hand (Aswani 2000; 2004; Aswani & Weiant 2003; Kruijssen et al. 2013; 2015; Pacific Community 2018).
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Table A2. Survey year of dataset included in the gender analysis for each country included.

Country	Survey Year
Fiji	2019
Papua New Guinea	2019
Solomon Islands	2019
Indonesia	2018
Kenya	2017
Madagascar	2019

Table A3. Responses to binary question about whether management had an impact at the community-level and individual level.

	Yes	No
Community-level impact	1579 (51%)	1,484 (49%)
Individual-level impact	1,308 (42%)	1,755 (58%)

Table A4. Cochran-Armitage p-values for relationship between gender and perceived impact of community- and individual-level impacts.

Impact level	Geography	Cochran-Armitage p value
Community-level impact	<i>All countries</i>	0.6542
	<i>Fiji</i>	0.0138
	<i>Indonesia</i>	0.3421
	<i>Madagascar</i>	0.6520
	<i>Kenya</i>	0.8855
	<i>PNG</i>	0.4402
	<i>Solomon Islands</i>	0.4470
Individual-level impact	<i>All countries</i>	<i>0.5272</i>
	<i>Fiji</i>	<i>0.4417</i>
	<i>Indonesia</i>	<i>0.8669</i>
	<i>Madagascar</i>	<i>0.4386</i>
	<i>Kenya</i>	<i>0.4177</i>
	<i>PNG</i>	<i>0.0688</i>
	<i>Solomon Islands</i>	<i>0.0820</i>

Subset of questions from Household Survey (Gurney et al., 2019)

22a. In general, does management affect this COMMUNITY? Yes No

(If respondent answers no, prompt by saying ‘so management has no positive or negative impacts on this community?’ If still no, skip to question 23. If respondent answers yes, continue.)

22b. What are the positive impacts of management for this COMMUNITY?

22c. What are the negative impacts of management on this COMMUNITY?

22d. Considering these positive and negative impacts, what is the overall level of impact of management on this community? *(Circle appropriate level)*

Very bad	Bad	Neutral	Good	Very good
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23a. In general, does management affect YOU? Yes No

(If respondent answers no, prompt by saying ‘so management has no positive or negative impacts on you?’ If still no, skip to question 24. If respondent answers yes, continue.)

23b. What are the positive impacts of management for YOU?

23c. What are the negative impacts of management on YOU?

23d. Considering these positive and negative impacts, what is the overall level of impact of management on you? (*Circle appropriate level*)

Very bad	Bad	Neutral	Good	Very good
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References

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Supplementary Information

Harper et al.

Likert plots by country

```
names(data)

tabyl(data$country)

for (i in (4:13)) {

  print(names(data)[i])

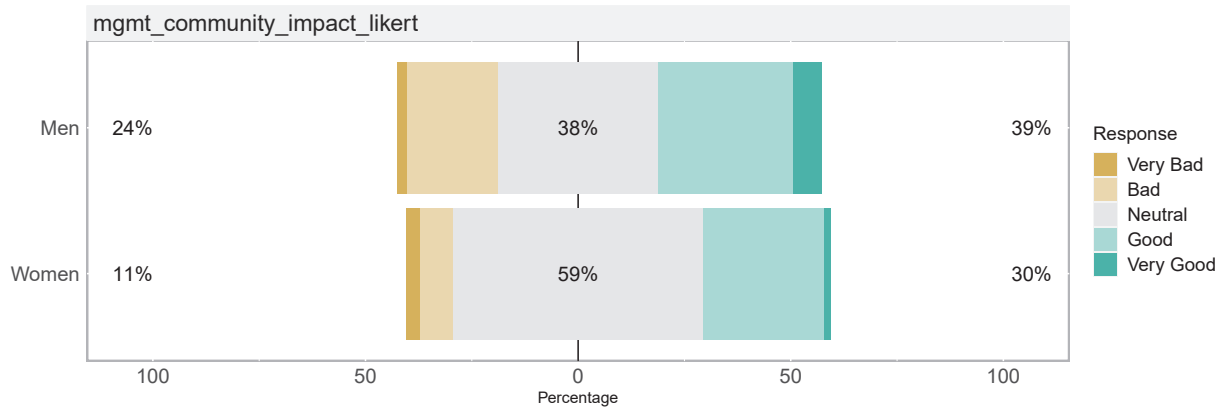
  plot <- plot(likert(data[,i, drop = FALSE],
                     grouping = data[,3]),
              type = "bar",
              text.size = 5,
              legend.position="right") +
  theme(axis.text=element_text(size=14),
        strip.text=element_text(size=16, hjust = 0),
        legend.title=element_text(size=13),
        legend.text=element_text(size=13))

  print(plot)

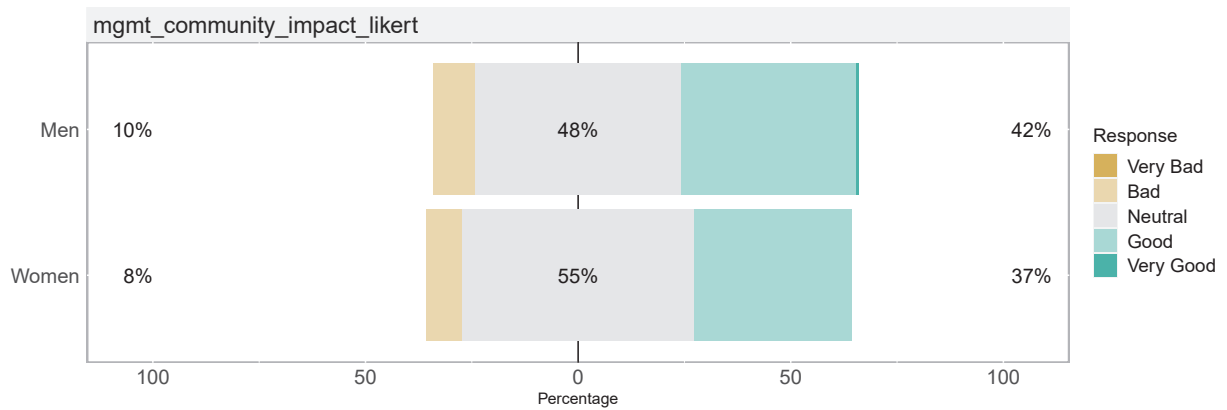
}
```

```
## [1] "country" "year"
## [3] "gender" "fishing_identity_likert"
## [5] "mgmt_community_impact_likert" "mgmt_personal_impact_likert"
## [7] "mgmt_fairness_likert" "mgmt_effect_catch_likert"
## [9] "mgmt_effect_effort_likert" "mgmt_effect_reliability_likert"
## [11] "mgmt_support_likert" "fairness_decision_making_likert"
## [13] "conflict_frequency_likert"

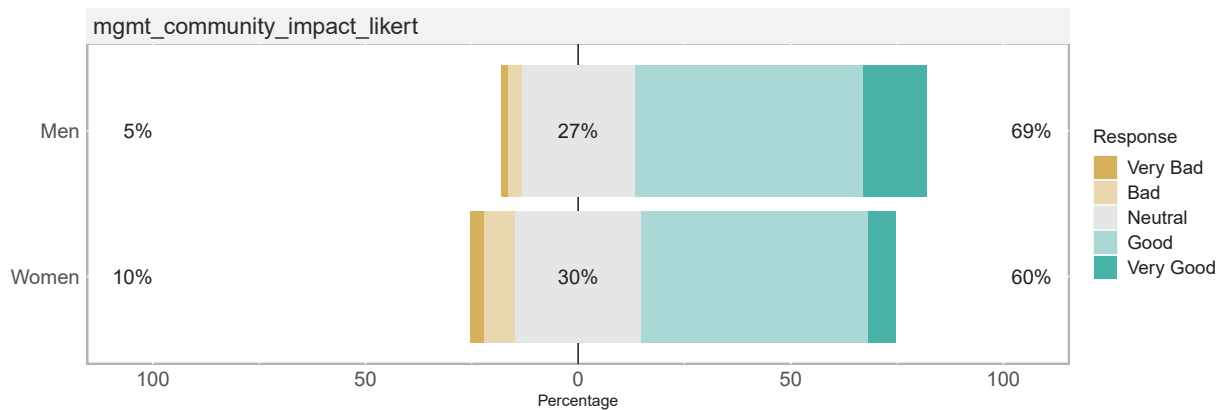
## [1] "mgmt_community_impact_likert"
## [1] "Kenya"
```



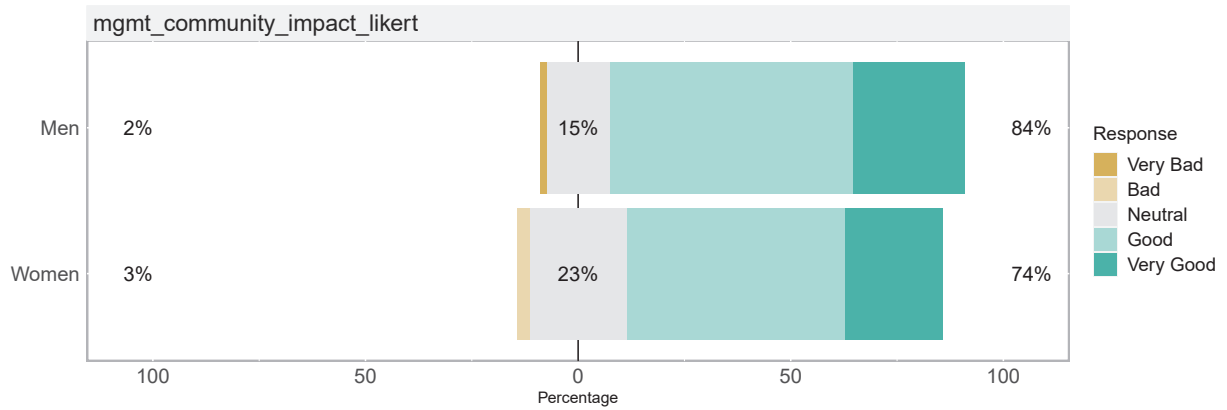
```
## [1] "mgmt_community_impact_likert"
## [1] "Indonesia"
```



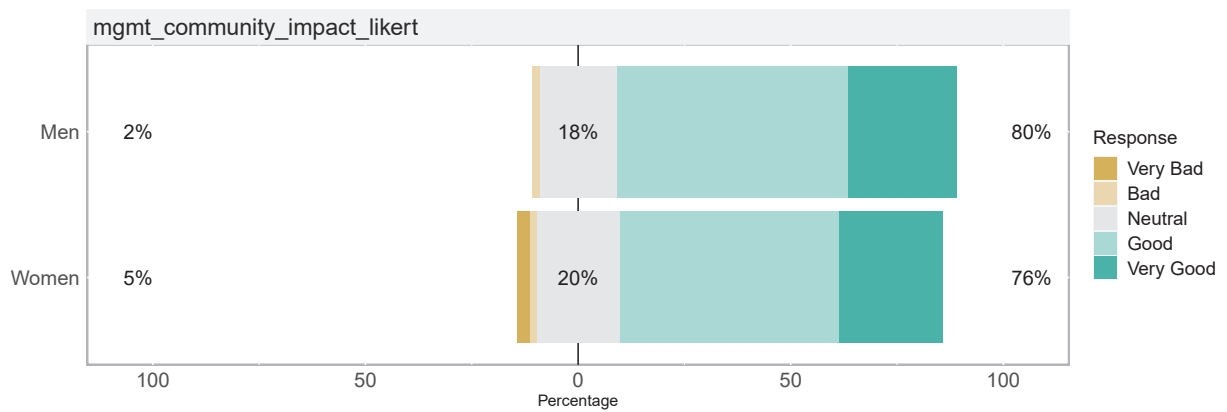
```
## [1] "mgmt_community_impact_likert"
## [1] "Fiji"
```



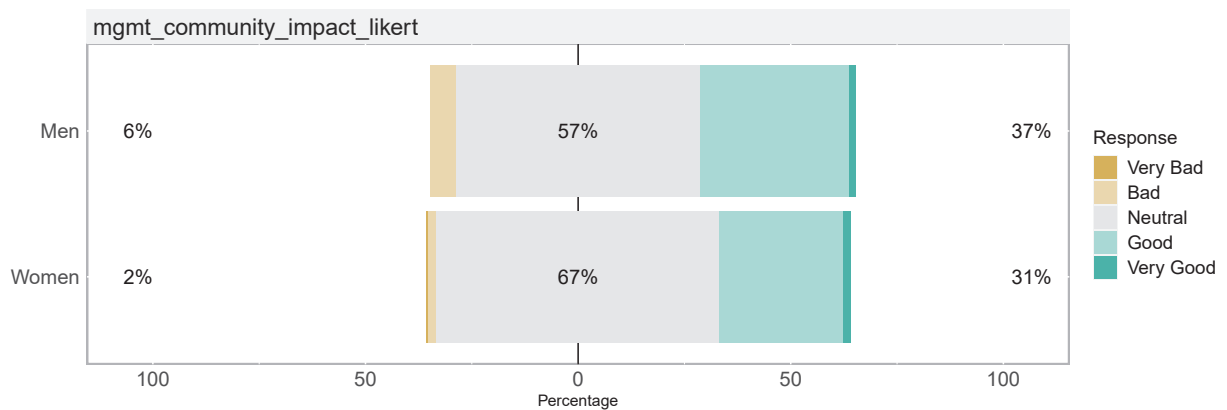
```
## [1] "mgmt_community_impact_likert"
## [1] "Papua_new_guinea"
```



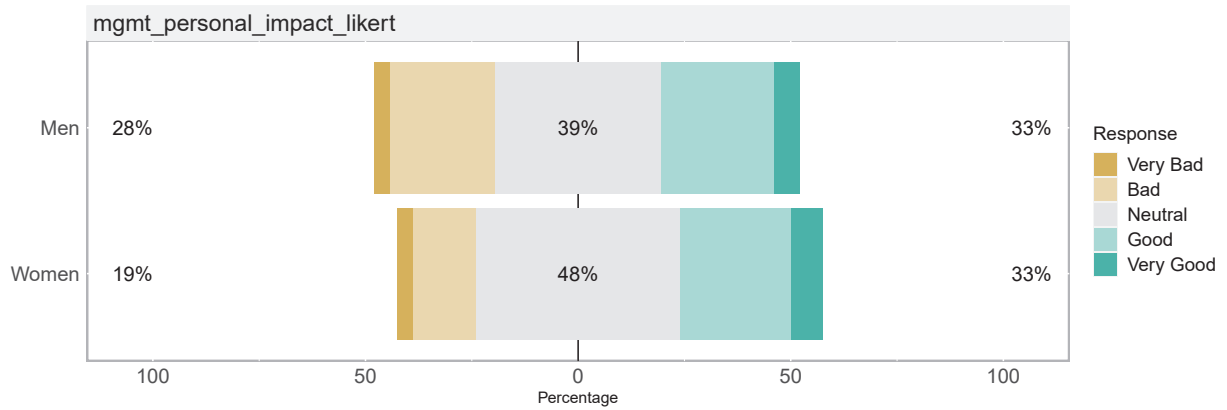
```
## [1] "mgmt_community_impact_likert"
## [1] "Solomon_islands"
```



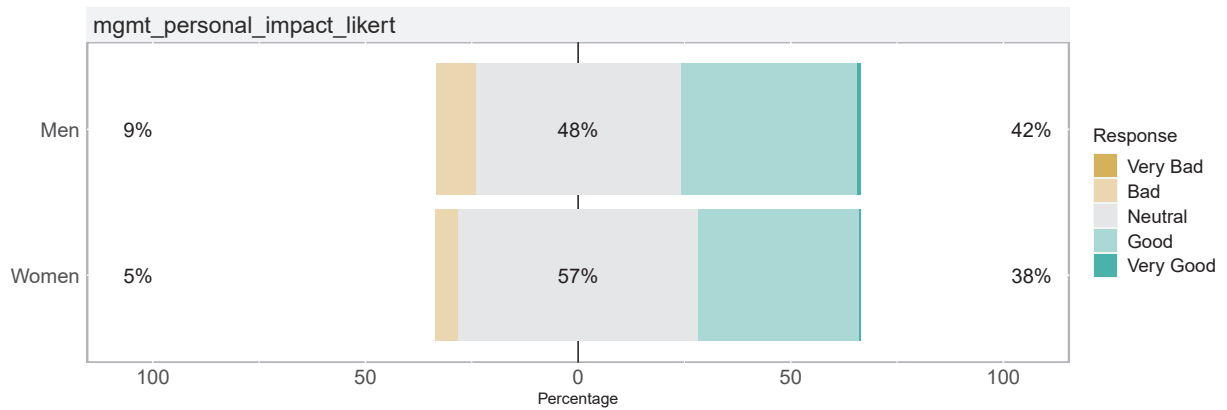
```
## [1] "mgmt_community_impact_likert"
## [1] "Madagascar"
```



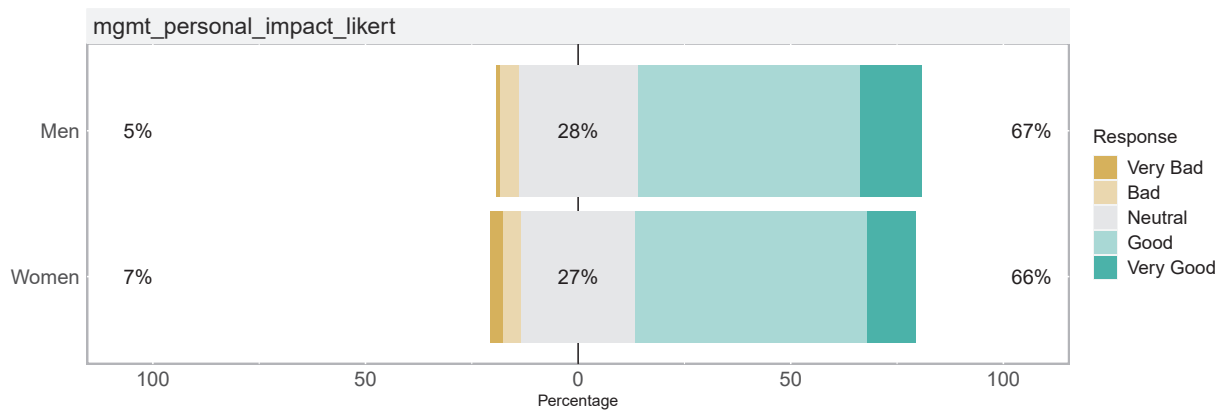
```
## [1] "mgmt_personal_impact_likert"
## [1] "Kenya"
```



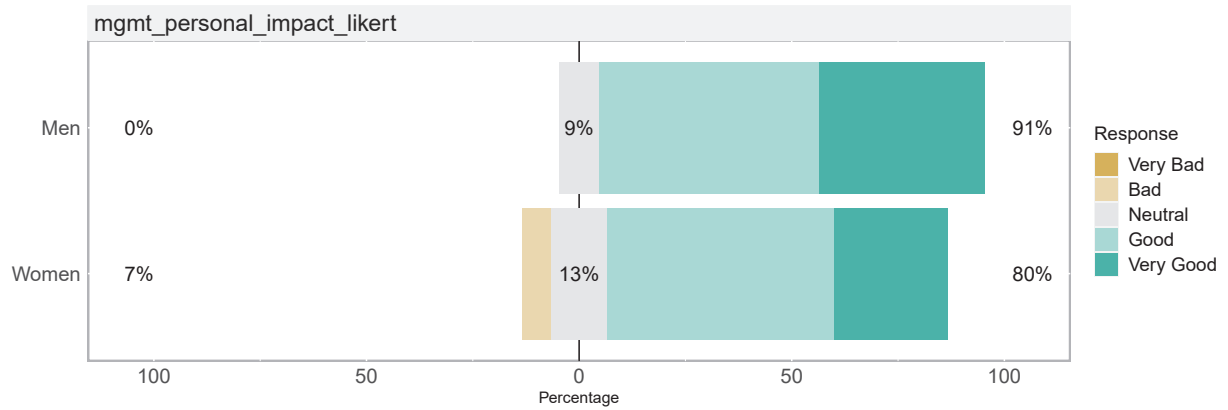
```
## [1] "mgmt_personal_impact_likert"
## [1] "Indonesia"
```



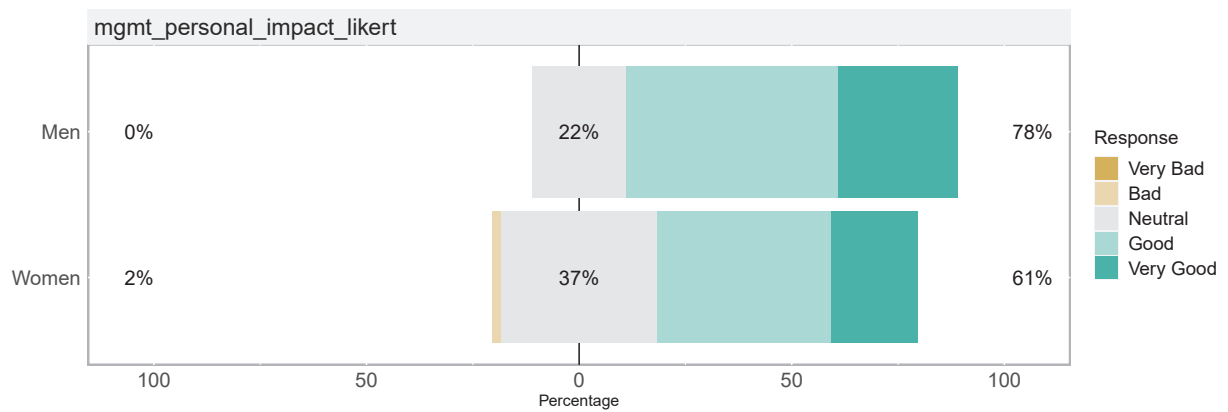
```
## [1] "mgmt_personal_impact_likert"
## [1] "Fiji"
```



```
## [1] "mgmt_personal_impact_likert"
## [1] "Papua_new_guinea"
```



```
## [1] "mgmt_personal_impact_likert"
## [1] "Solomon_islands"
```



```
## [1] "mgmt_personal_impact_likert"
## [1] "Madagascar"
```

