

Addressing environment management and local livelihood in Fiji's coastal communities



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Introduction



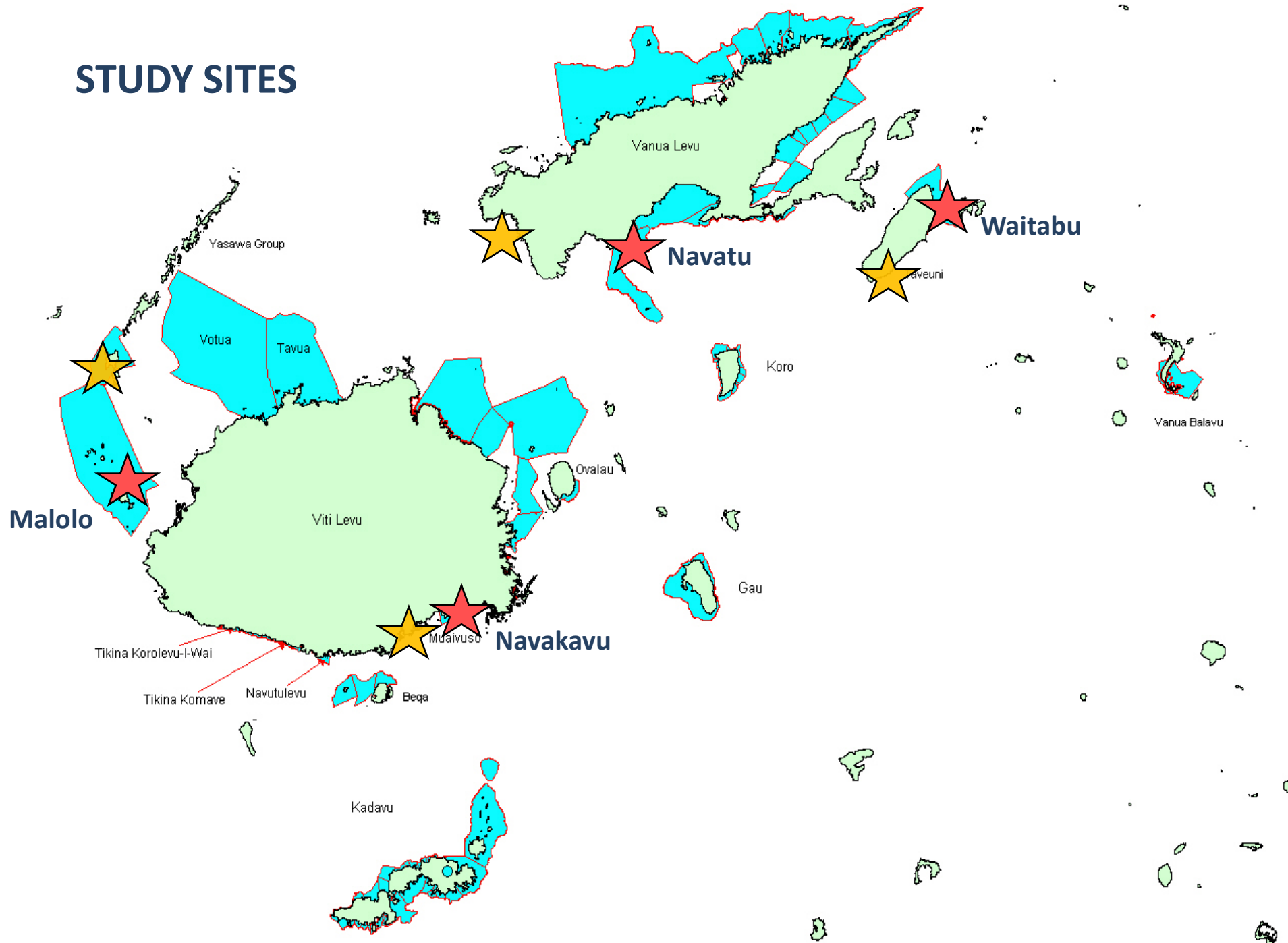
- Biodiversity vs local livelihood
- Can conservation actions benefit livelihood
- Can measures to conserve biodiversity and achieve sustainable livelihood go hand in hand

Fijian context- inshore management



- Top down vs bottom up
(Locally managed marine areas approach- LMMA)
- Community empowerment and participation
- Adaptive management
- Biological vs socioeconomic effectiveness

STUDY SITES



Method and approach

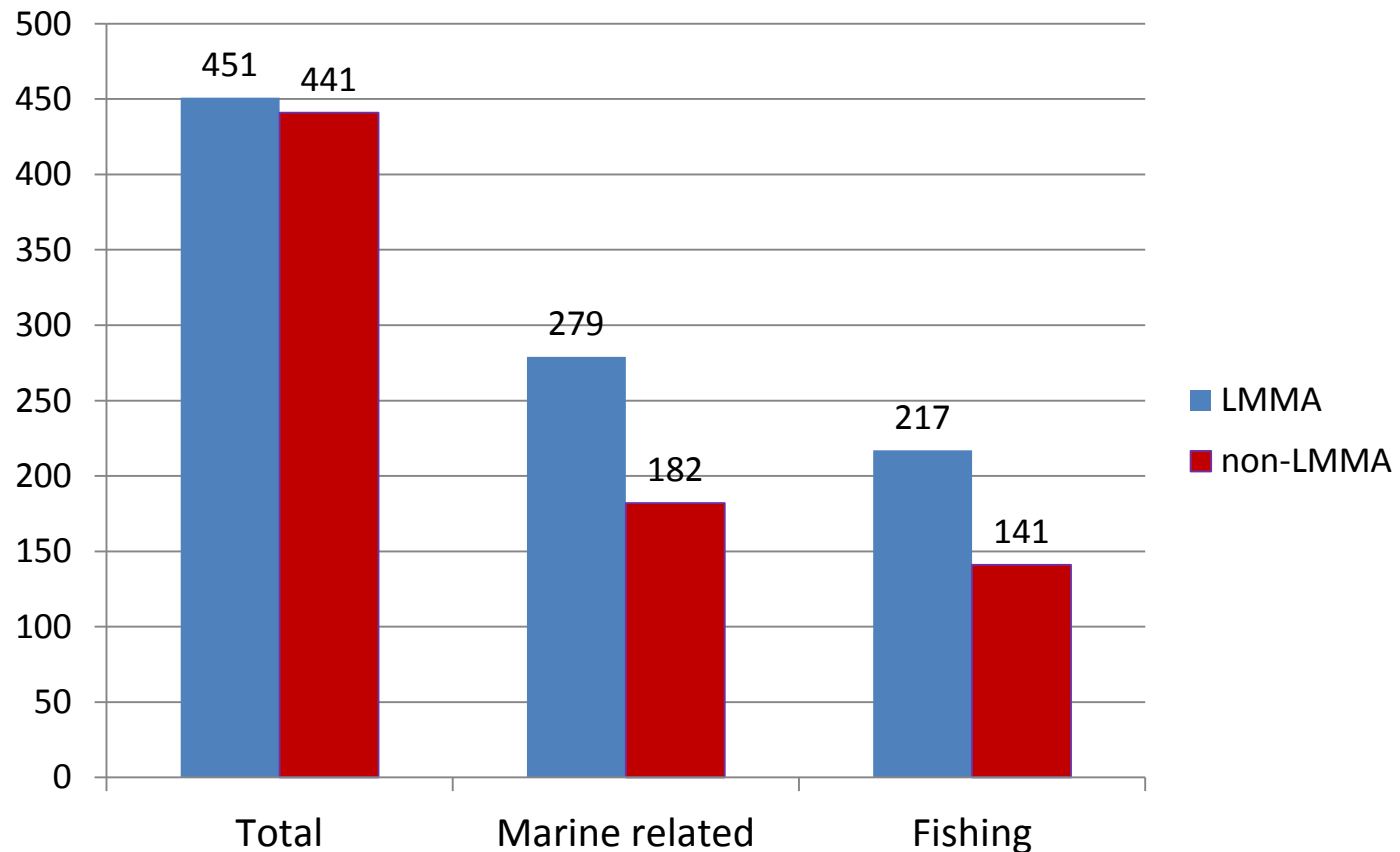


- Socioeconomic data from over 300 households, key informants and focus group
- 4 LMMA and 4 non-LMMA sites
- Pre-LMMA and LMMA periods
- Secondary data

Results and Findings

Economic

Household income- LMMA vs non-LMMA



t-test of income



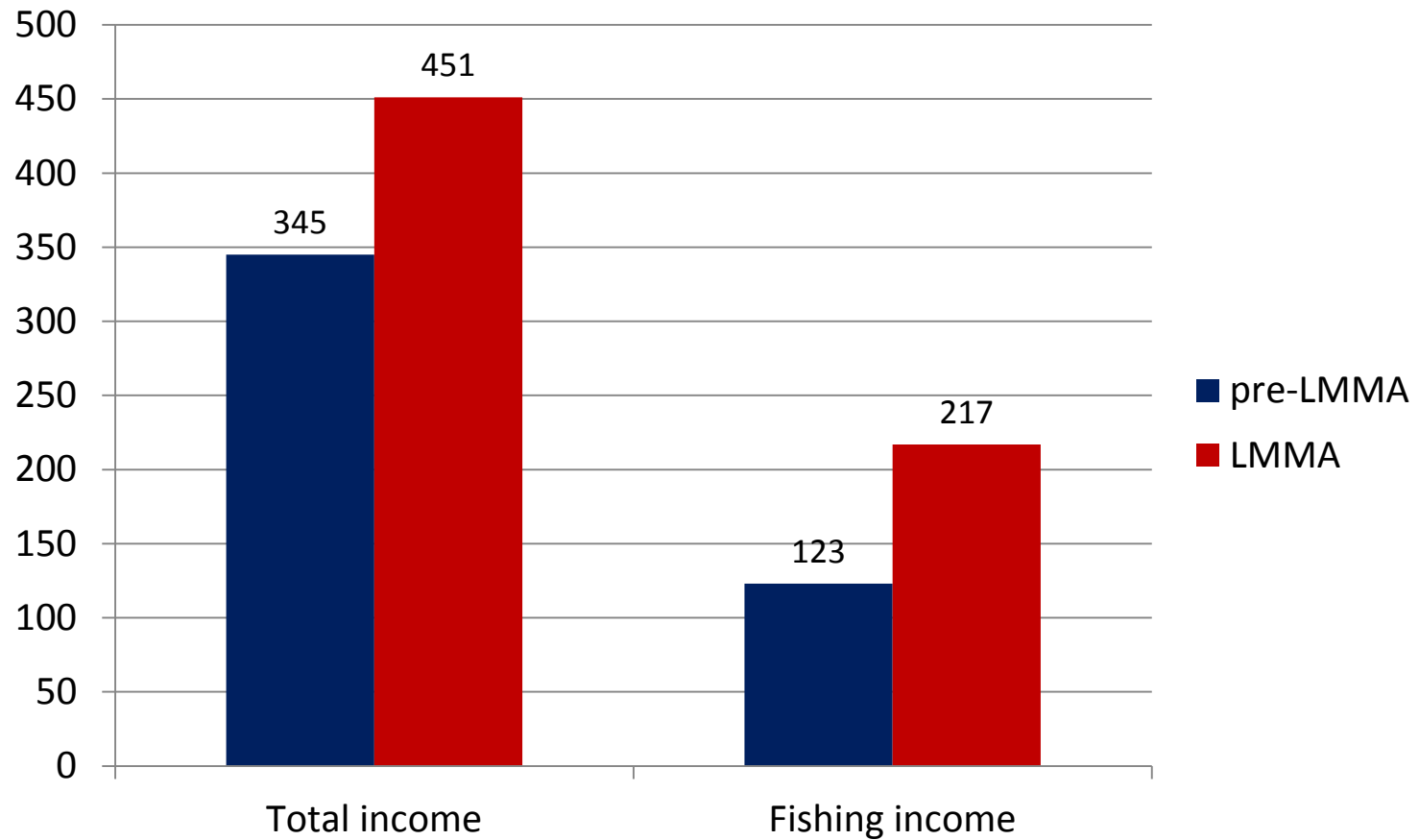
$$H_0 : \mu_{MMA} = \mu_{Non-MMA}$$

$$H_a : \mu_{MMA} > \mu_{Non-MMA}$$

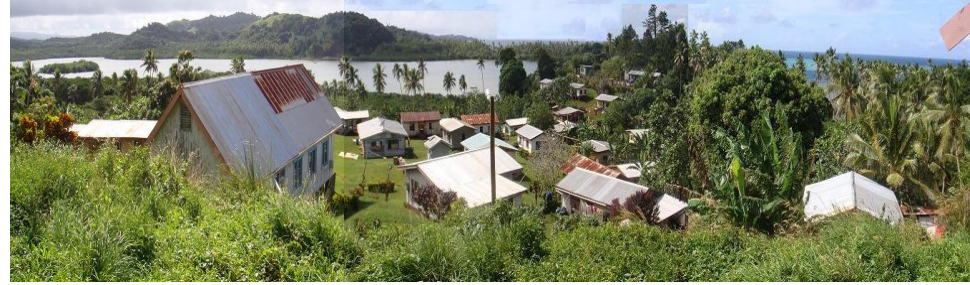


- Null hypothesis- income in LMMA=non-LMMA
- Alternative hypothesis- income in LMMA>non-LMMA
- Total income- no sufficient evidence to conclude that the null hypothesis is rejected
- Marine related- sufficient evidence to conclude that the null hypothesis is rejected
- Fishing- sufficient evidence to conclude that the null hypothesis is rejected

• Household income- pre vs post LMMA



t-test of income



$$H_0 : \mu_{Current} = \mu_{Baseline}$$

$$H_a : \mu_{Current} > \mu_{Baseline}$$

- Null hypothesis- income in pre-LMMA=post-LMMA
- Alternative hypothesis- income in post>post-LMMA
- Total income- sufficient evidence to conclude that the null hypothesis is rejected
- Fishing- sufficient evidence to conclude that the null hypothesis is rejected

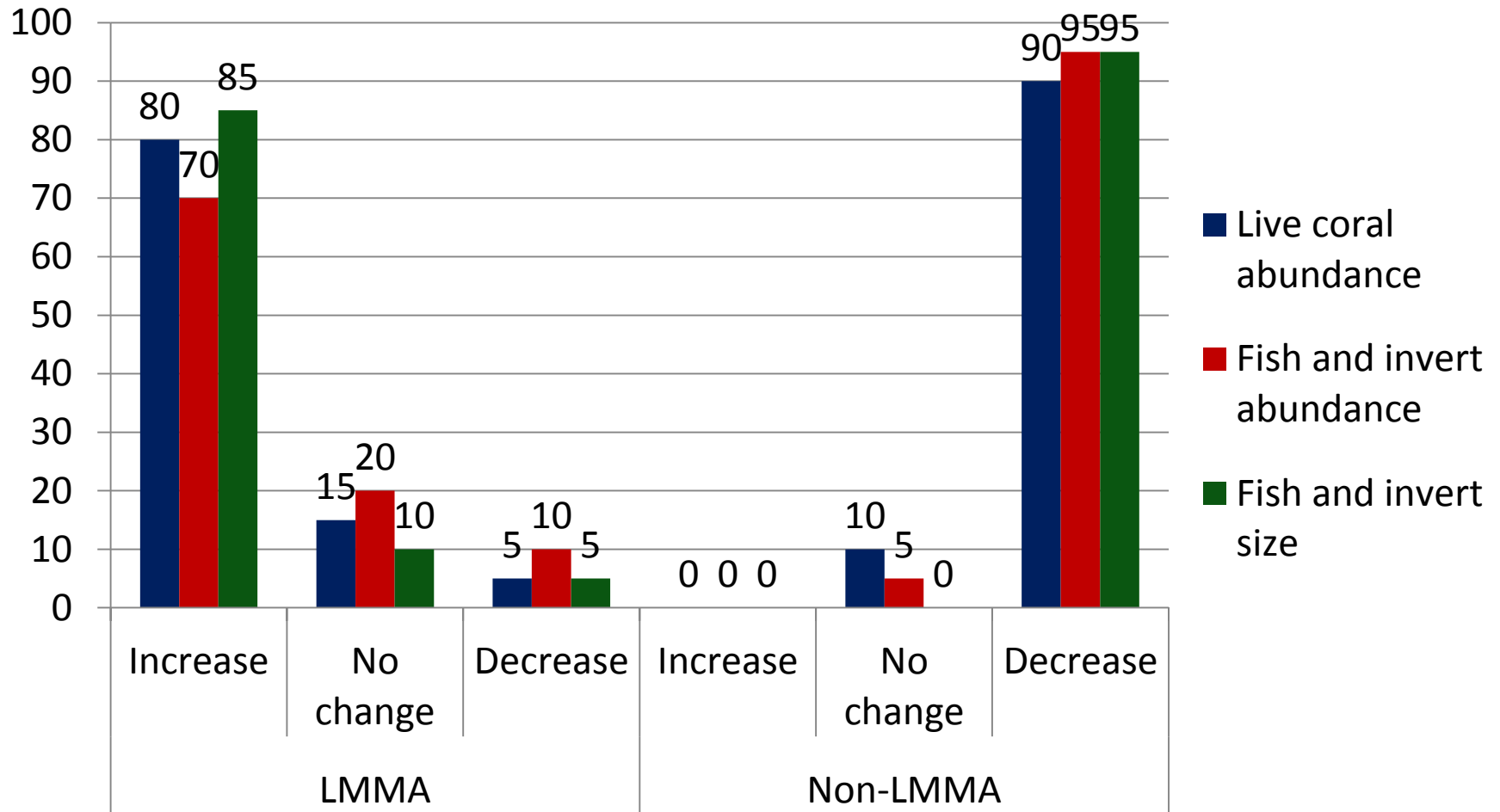


Economic enhanced through



- Increase in fish catch and fish sale
- MPA Access fee
- Incentives for MPA establishment
- Research excursions
- Diversification of income source
- Training and workshops

Perception on resource conditions



Some community observations...



The crab, *Calappa calappa*



Large schools of trevally

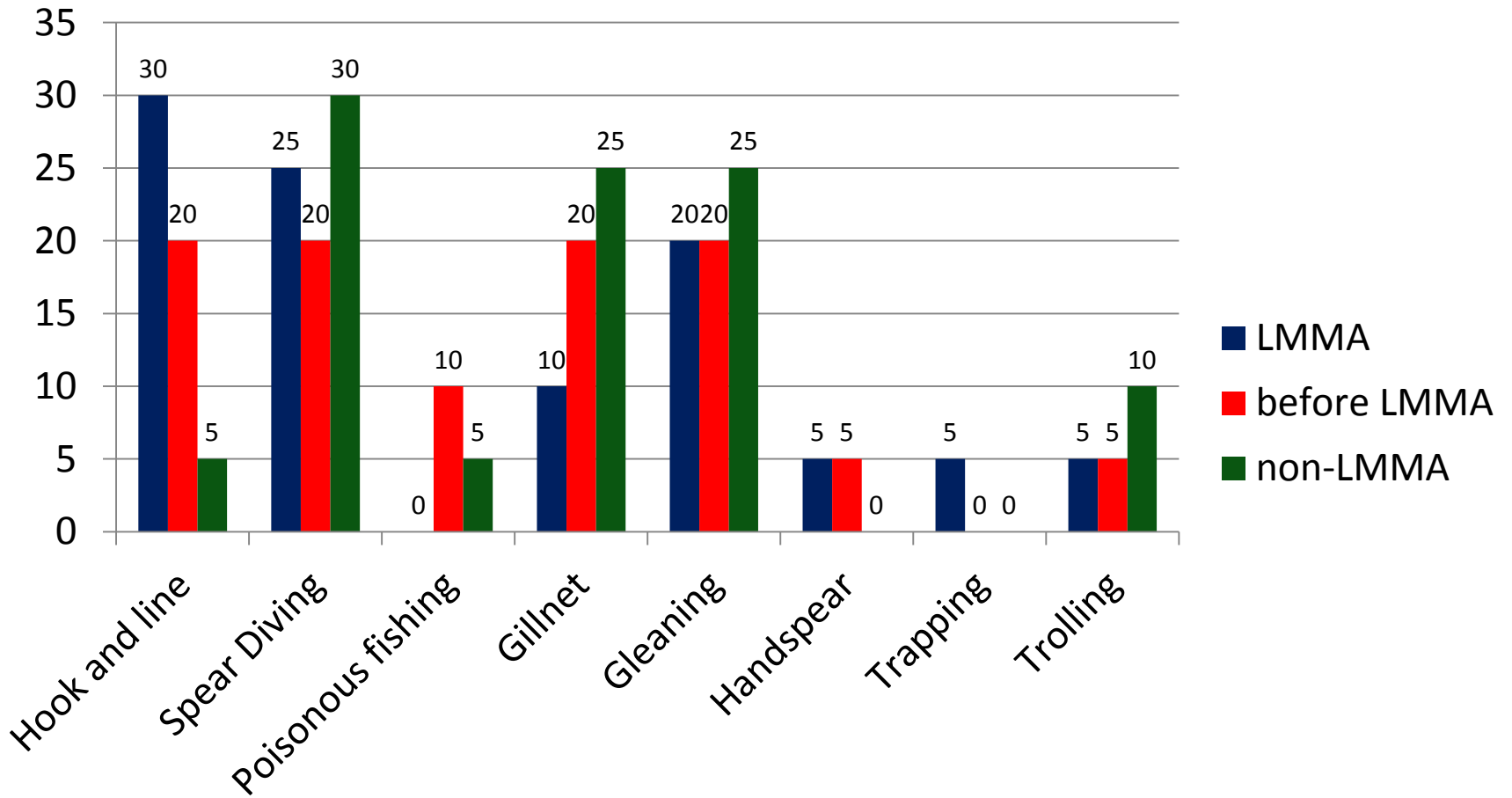


Large schools of mullet

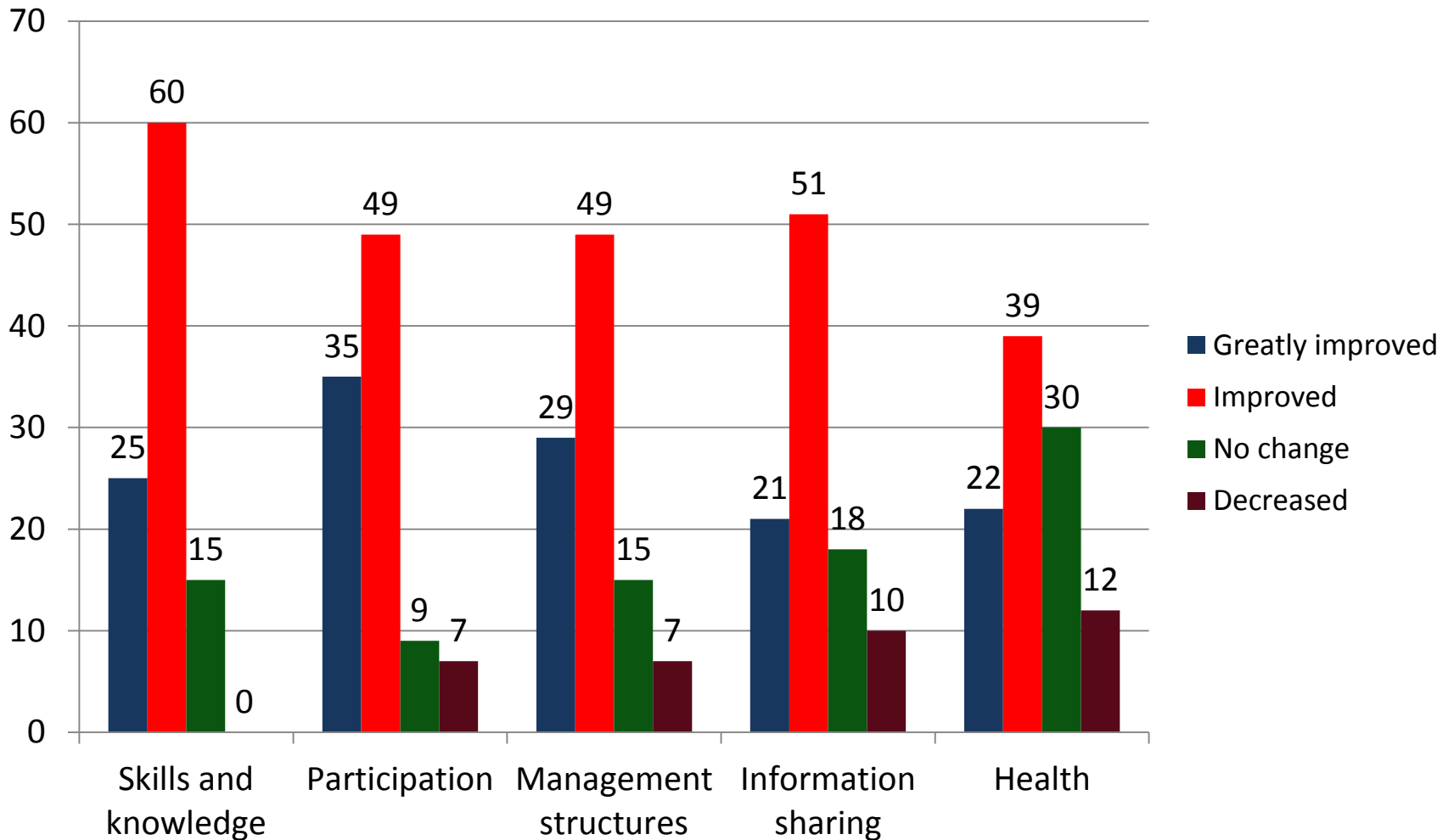


Mussels

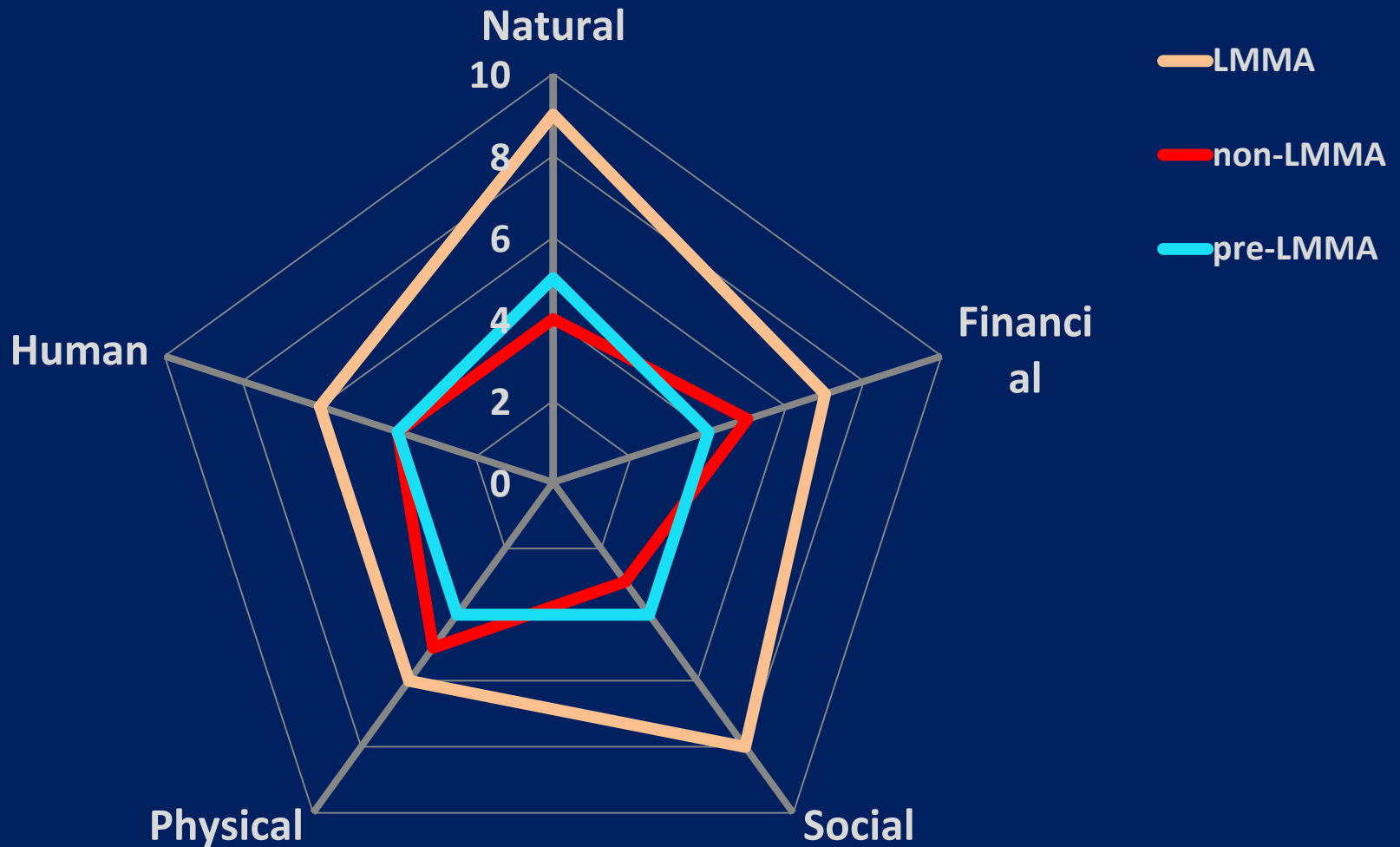
Resource use pattern



Other key social variables- LMMA



Impacts on livelihood scale



Concluding remarks



- Community context
 - biodiversity and livelihood are interrelated
 - conservation actions benefit livelihood
- Adaptive management approach
 - success in achieving conservation and livelihoods goals
- Conservation and livelihood goals go hand in hand

Acknowledgement

- FLMMA Network partners
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- Asia-Pacific LMMA Network partners
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