Coastal and ocean-dependent livelihoods (job quantity and quality) produced by marine sectors.

 $x_{liv}$  is the status of the livelihoods sub-goal

$$x_{liv} = \left(\frac{1}{2}\right) \left(\frac{\sum_{1}^{k} j_{c,k}}{\sum_{1}^{k} j_{r,k}} + \frac{\sum_{1}^{k} w_{m,k}}{\sum_{1}^{k} w_{r,k}}\right)$$

 $j_{c, k}$  is the adjusted number of direct and indirect jobs in sector k within a region at current c time point  $j_{r, k}$  is the adjusted number of direct and indirect jobs in sector k within a region at reference r time point  $w_{m, k}$  is the average PPP—adjusted wages per job in the sector k within a region at current c time point  $w_{r, k}$  is the average PPP—adjusted wages per job in the sector k within a region at reference r time point  $w_r$  the reference value for wages was the highest value observed across all regions

k sectors include tourism, commercial fishing, marine mammal watching, aquarium fishing, wave & renewable energy, mariculture, transport. & shipping, ports & harbors, ship & boat-building