Using Site Based Tools to Demonstrate Ecosystem Service Values in Africa: The case of Toolkit for Ecosystem Services Site-based Assessment (TESSA).

BirdLife ZIMBABWE

African Great Lakes Conference
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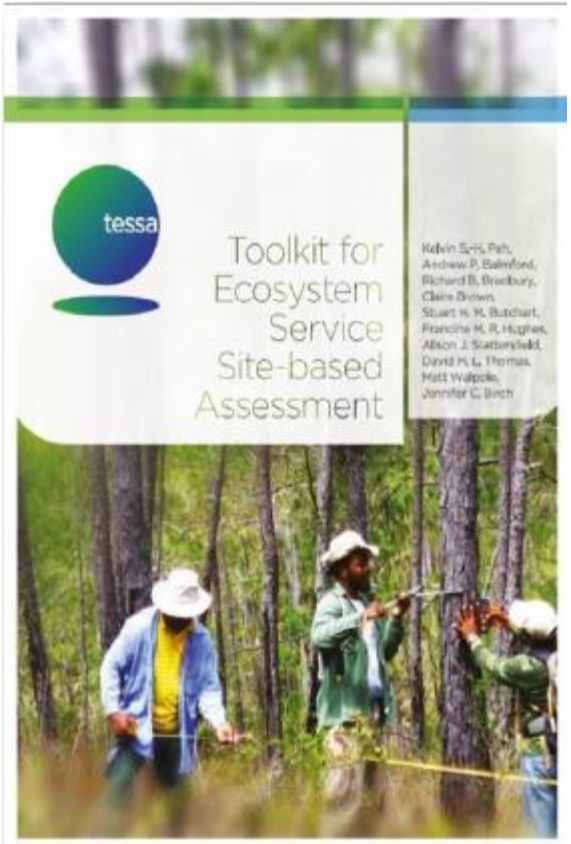

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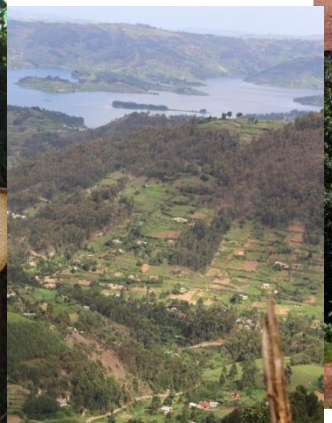
Presentation Outline

- Brief introduction on Ecosystem Services
- Toolkit for Ecosystem Services Site-based Assessment (TESSA) and its application
- Key results from Africa following application of TESSA
- Conclusion

Ecosystem Services (ES)

- '**Ecosystem Services**' –goods and services provided by natural and modified ecosystems.

- Categorises: **provisioning, regulating, cultural** and **supporting.**



Measuring and valuing of Ecosystem Services (ES)

- In Africa, there are many Biodiversity-rich areas which provide important ES to the people.

- Known **tools and methods** for measuring and valuing these services appear to be **complex** not user friendly at site level.

- **BLI** in collaboration with **TBA** built capacity of African conservationists to apply **TESSA** at biodiversity sites.

Overview of TESSA

- Developed through a collaboration of **six institutions**, under a CCI and BLI projects

- **TESSA** is site-based, low cost, and participatory tool.
- **Accessible**-designed for practitioners in the field

- Can be used by a wide range of users

- **Rapid** (2-3 months person time)

- **Site scale** (100-100,000ha)

Measuring services

Overview of TESSA cont...

- **Guide users- service identification, data** needed, **methods or sources** to obtain the data, **communication of results.**

- The toolkit help **non-experts** obtain scientifically robust data

- Assesses **net ecosystem services** by comparing **two alternative states** of a site: **current** (e.g. conserved) state site, and **alternative** (e.g. converted) state.

- This toolkit covers **cultivated goods**, **harvested wild goods**, **climate regulation**, **nature-based recreation** and **water services**.

Application of TESSA

- The toolkit is organised into 7 stages, which are participatory;

1. Scoping (site of interest, objective, stakeholder identification, policy context, ecological, socio and political issues)

2. Preliminary Scoping Appraisal

3. Determine the alternative state (full engagement of stakeholders in identifying a plausible state)

Application of TESSA cont...

4. Planning the full assessment (consider results of scoping appraisal, objective of the assessment, available resources)

5. Methods selection

6. Data collection (section 7 of the toolkit has detailed description of each method)

7. Data analysis and communication

Application of TESSA in Africa

Some of the results obtained following application of TESSA

Yala Case Study_Kenya

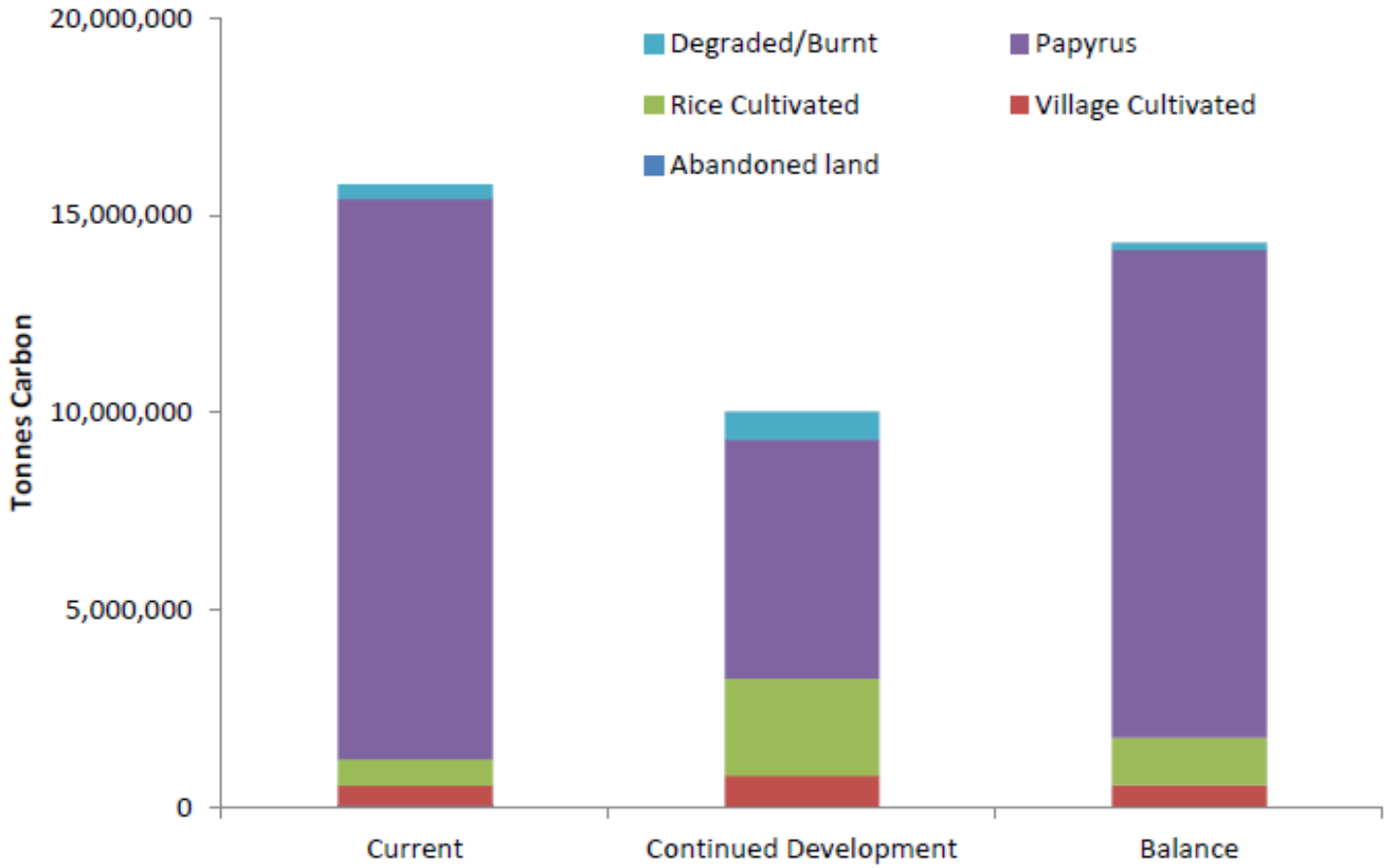
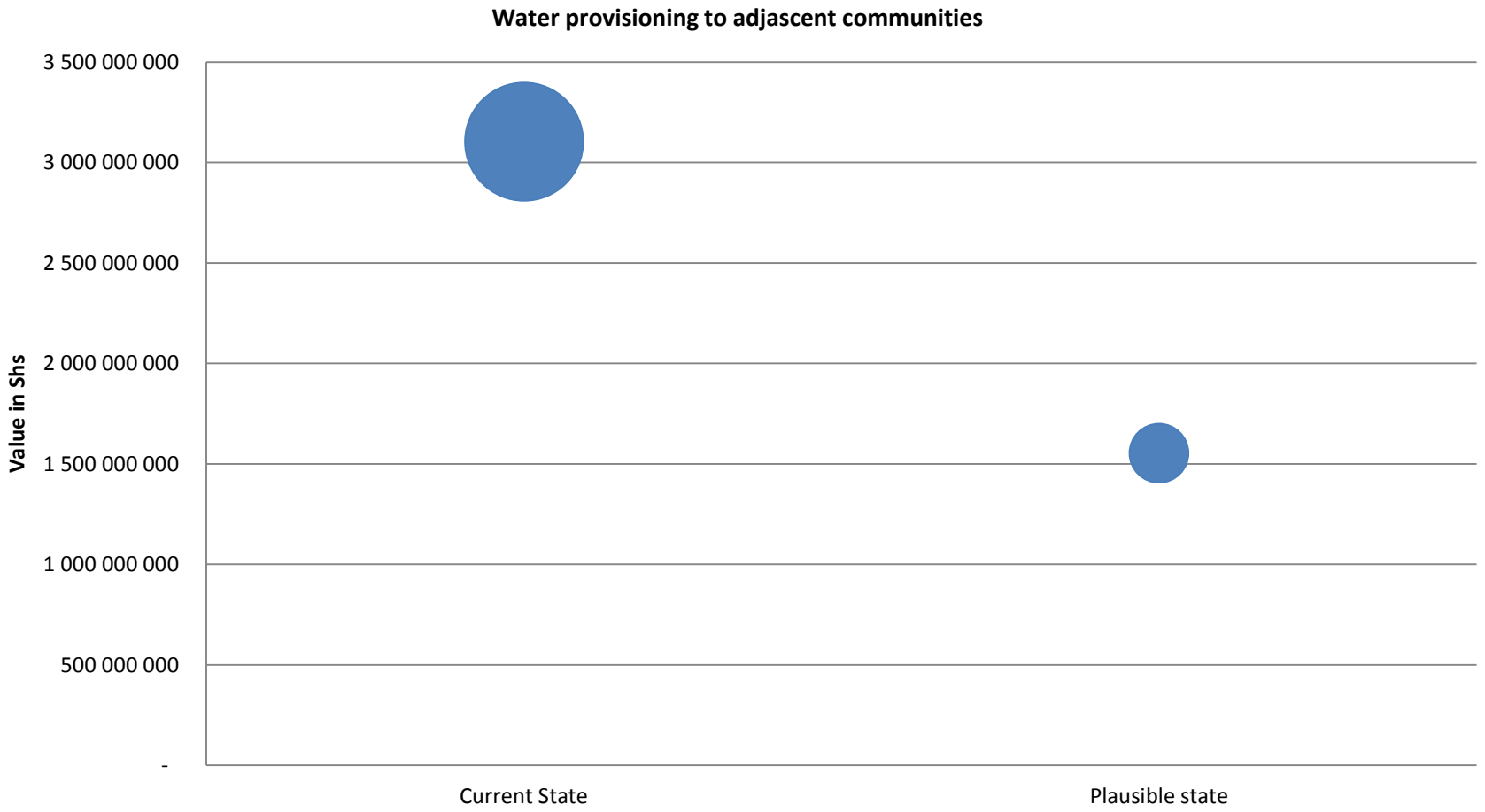


Figure 6. Contribution of various land-uses to overall carbon storage in vegetation and soil at Yala, under current and supposed future land-use scenarios.

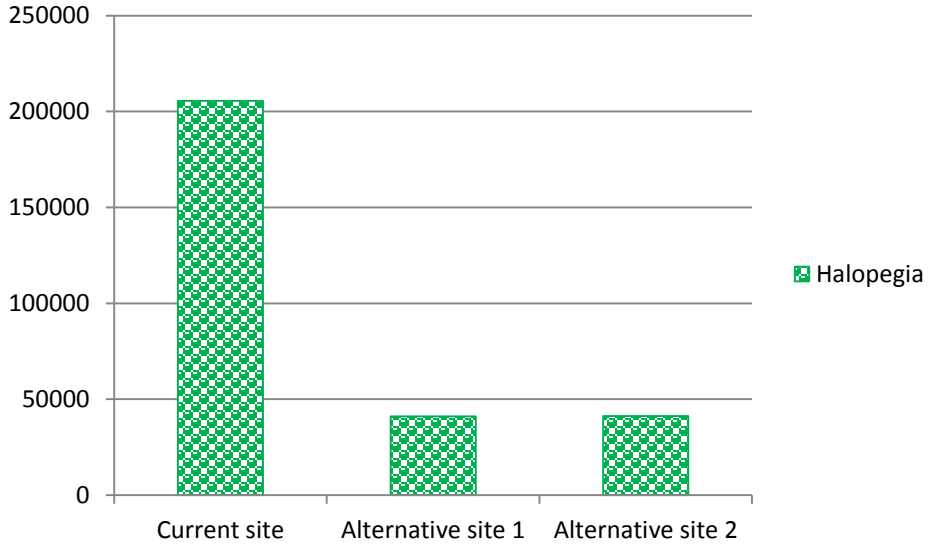
Uganda case study: Echuya and Mgahinga Forests

Water Provisioning



Results obtained from Cameroon

COPAL Community Forest In Cameroon



Revenue	Current site	Alternative site 1	Alternative site 2
Djansang	£2284.8	£1360.8	£1315.8
Bush onion	£1729.6	£1450.6	£1456
Halopegia	£82244	£16448.8	£1648.4
Okok	£32927.4	£4693.8	£4691.6

Malawi Case Study; Mt Mulanje and Zomba-Malosa Forest Reserves

Tourism Value

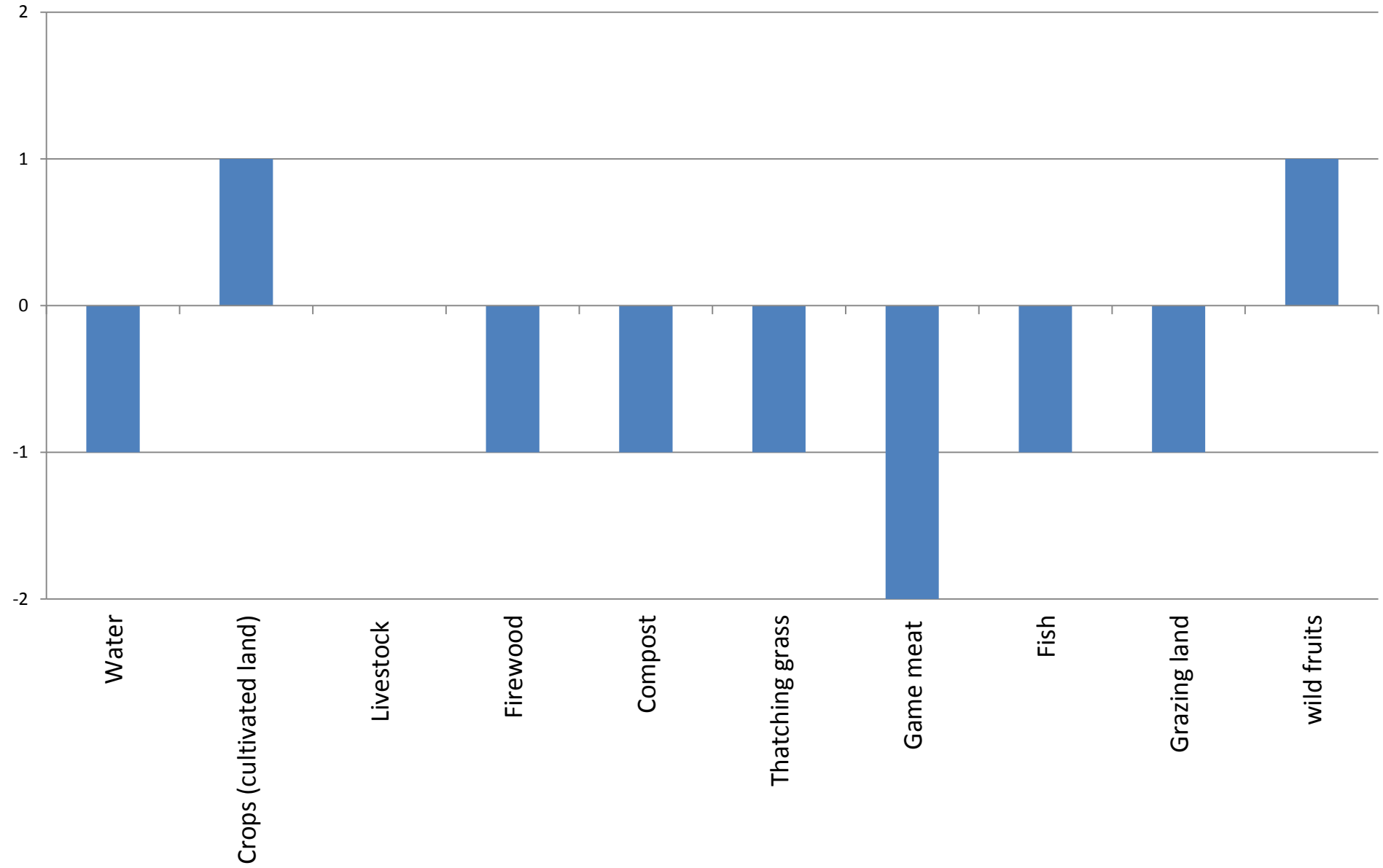
Calculations	US$
Annual tourism value from international and national visitors	1 692 815.76
Annual income from entrance fees	593.49
Annual costs of tourism operations	
Net value of current state	**1 693 409.25**
Net value of alternative state	**99 612.31**
Nationals: Mean spend per visit	422.53
International: Mean spend per visit	502.77
Total visits per year	3 521.76
International	2 552.00
National	969.76

Zimbabwe Case Study:
Driefontein Grasslands IBA

Total net economic values of ES to the production of cultivated goods

	Current State		**Alternative state**	
	Maize	**Beans**	**Maize**	**Beans**
Size of land	1ha	1 ha	1ha	1 ha
Yield	8 tonnes = $15/50kg	3 tonnes @ $90/50kgs	5 tonnes = $15/50kgs	2 tonnes @ $90/50kgs
Value of total crop	$2,400	$5,400	$1,500	$3,600
Cost of inputs, labour, transport and equipment	$1,036	$769	$1,225	$677
Net value of crop	**$1,364**	**$4, 631**	**$285**	**$2, 923**

Ecosystem Service Change in plausible future



Zimbabwe Case Study: Driefontein Grasslands IBA

Harvested Wild Goods

	Current state (Driefontein Mission)				Alternative State (Shashe-Chinyaure Villages)			
	Firewood	***Strychnos spinosa* (matamba)**	***Azanza garckeana* (Matohwe)**	**Thatching Grass**	**Firewood**	***Strychnos spinosa* (matamba)**	***Azanza garckeana* (Matohwe)**	**Thatching Grass**
Value per HH/yr(US$)	119	5	87	225	182	33	19	114
Cost of Hired labour (US$/HH/yr)	43	-	17	174	97	-	-	74
Cost marketing/transport US$/HH/yr	22	-	-	-	49	-	-	-
Net value(US$/HH/yr)	54	5	70	51	36	33	19	50
Total net value (US$/site)	**181**				**129**			

Conclusion

- Toolkit proved to be **simple** and **effective** in measuring and valuing ES at site level.

- Benefits from ecosystem services in a well **managed sites** are higher than those in a **poorly managed** site.

- This **participatory approach** has generated useful knowledge for better understanding of benefits obtained from the ecosystems, which are comparable in monitory terms.

- Generates useful information that help **influence policy** decisions for improved conservation and management of natural resources.

More information at:
www.tinyurl.com/tessatoolkit

Version 1.2 available to download:
http://tessa.tools

Version 2.0 due for release in November 2017

Acknowledgements

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Thank you