

Water Use and Suggested Carbon Management around Lake Naivasha

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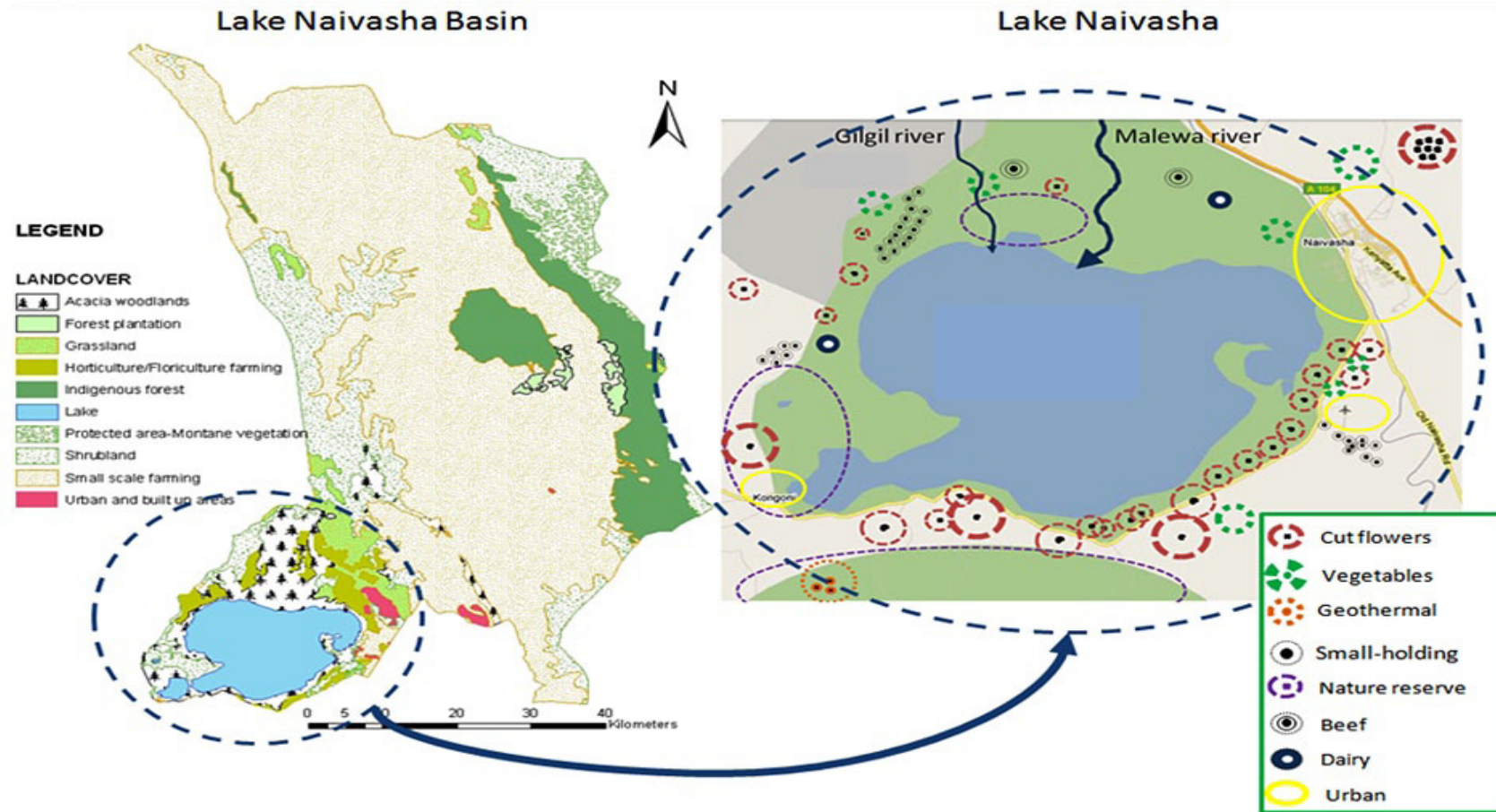
Kenya.



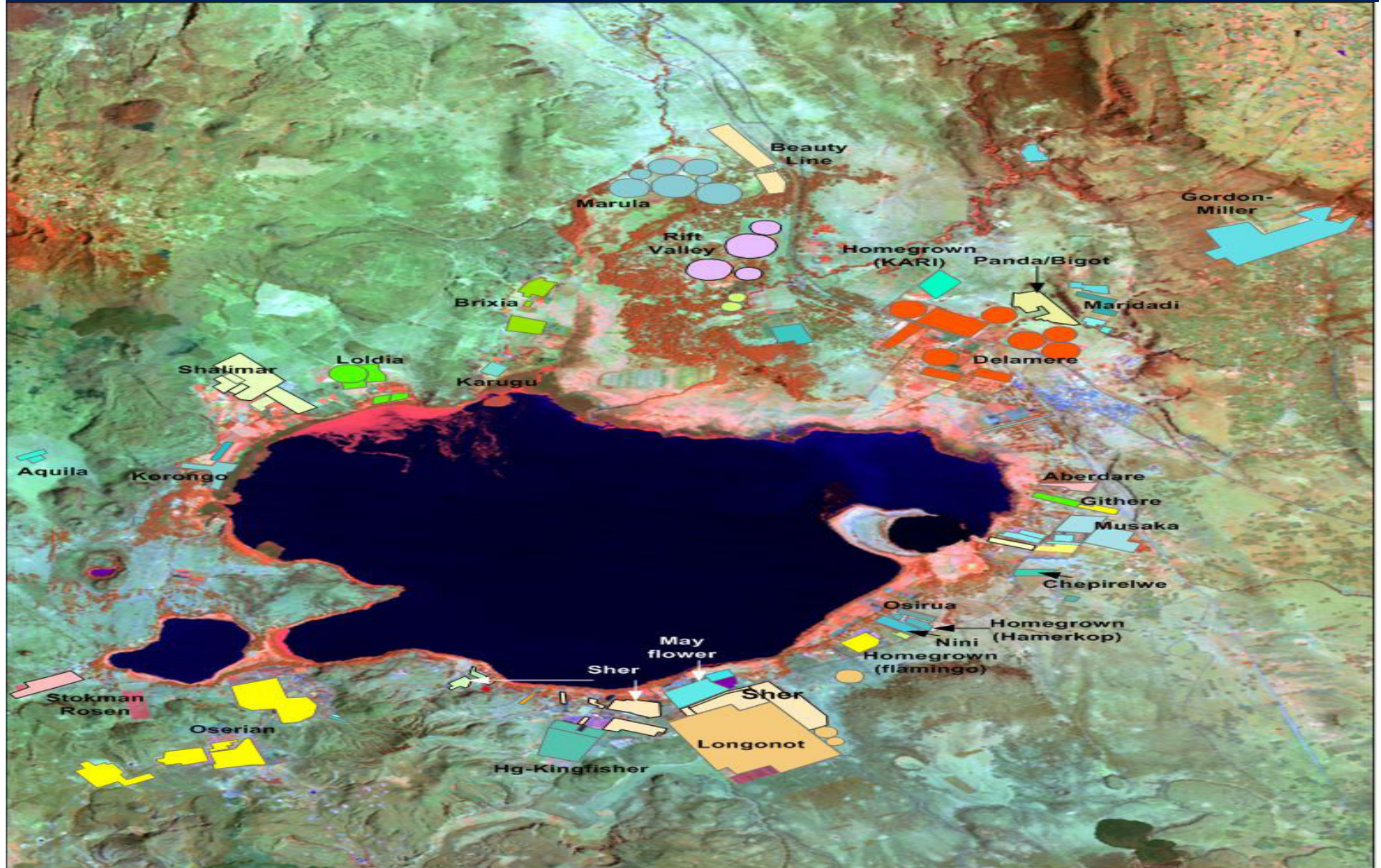
AREA COVERED BY FLOWER FARMS

- The Lake has a surface area ~ 160 square kilometres
- A total of 4450 ha around Lake Naivasha is covered by irrigated farming
- Flower farms around the lake occupy a total of 1900 hectares, 1200 hectares are grown in green houses.
- 43% covered by cut flower farms, 41% vegetables and the rest covered by fodder.

Land- Use around Lake Naivasha



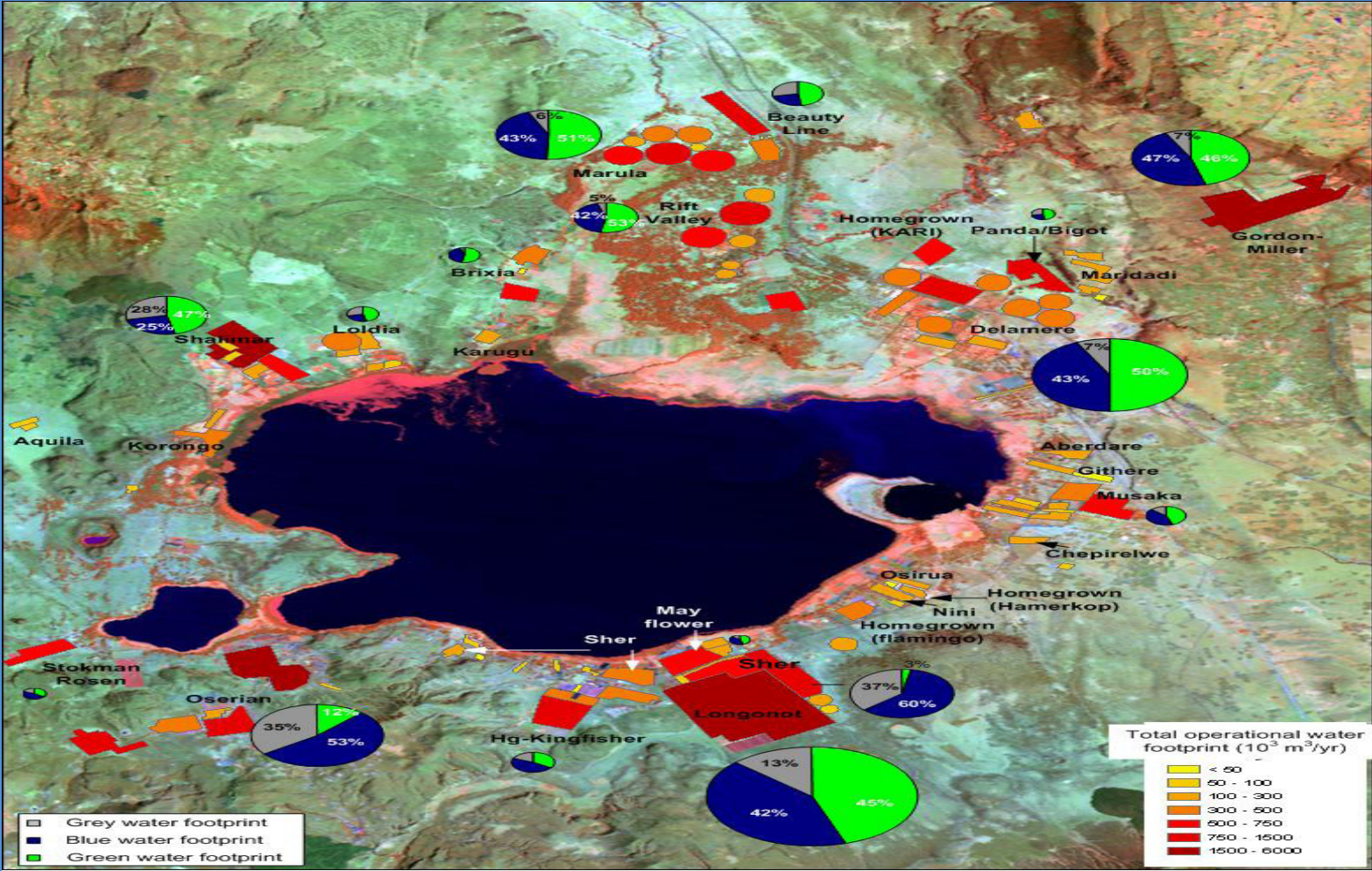
Irrigated farms around lake Naivasha



Estimated quantity of water Used

- Total water footprint of cut flower farming is estimated at 41.9 cubic millimetres per year.
- Green water 37%,blue water 44% and Grey water 19%
- Cut flower farming contributes to 98% of the total blue water footprint in Lake Naivasha.

Total operational water footprint around Lake Naivasha



Importance to the Economy

- Employs about 25,000 people directly and approximately 500,000 people benefit from it indirectly
- It is the third foreign exchange earner in Kenya
- L. Naivasha accounts for 70% of Kenya's flower exports
- The flower farms around L. Naivasha earn Kenya a total of ksh.28 billion per year-about 10.7% of the country's total foreign earnings.

Challenges it faces

- Excessive water abstraction
- Destruction of riparian areas.
- Intensive use of pesticides, which is swept into the lake through run-off, putting the lake's biodiversity at risk.

Suggested interventions

- Need to define maximum allowable water abstraction levels at the basin scale.
- Need to encourage greenhouse cultivation coupled with rain water harvesting
- Coordinated action to stop the destruction of vegetation along the river banks and around the lake.
- Prohibition of cultivation on the riparian areas.
- Imposition of charges on excess release of chemicals into the environment.
- Effecting existing environmental standards and carrying regular checks on the technology used in production.
- Water sustainability premiums.

What are possible carbon emission sources ?

- During the production process ...(on-site) direct emissions from nitrous oxide due to fertilizer use, carbon dioxide emissions from use of vehicles and tractors
- Off-site emission sources e.g. during transportation and storage

Suggested Actions to reduce carbon release

- Afforestation practices
- Forest conservation and restoration practices
- Practicing Agroforestry and avoidance of forest destruction.
- Practicing cleaner production processes in the growing and processing of the flower products.
- Use of wastes to produce – biogas – generate electricity – make compost – fertilizer etc..
- Use of solar power to generate energy

THANK YOU