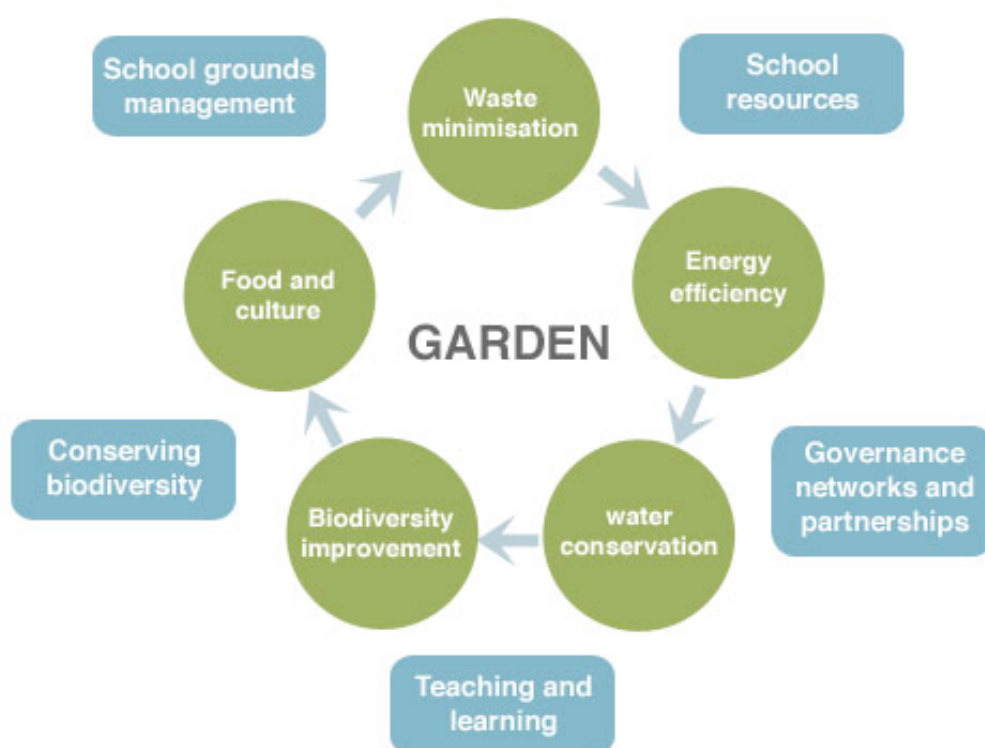


# Growing Communities - Framework

Education for sustainability operates on an action-based learning model that is creative and reflective. *Growing Communities* advocates the involvement of students in every stage of decision-making and encourages processes of exploration, design, action and evaluation.

*Growing Communities* works with students within a framework that links environmental management with the key dimensions of sustainability through the garden. The following diagram may help to illustrate this point:



*Growing Communities* are able to design workshops and lessons with students and participants based on the following principles:

## Biodiversity Improvement

*Plants and animals are living things and are essential to life on earth. Plants provide us with energy, oxygen, temperature regulation and the biomass that fuels the food chain and provides the raw materials for human lifestyles. Animals are consumers and decomposers and assist in moving nutrients through the ecosystem. They also help to pollinate plants and distribute seeds. A greater number or variety of species ensures the resilience of an ecosystem and its ability to respond to change.*

- Preserving natural complexity – understanding the relationship between living and non-living things
- Permaculture design
- Plant life – identifying and using plant guilds, life-cycles, companion planting, crop mixes
- Organic gardening, fertilization and pest control
- Animals and their role in the garden – chickens, worms, insects

## Food and Culture

*Food sustains life and is harvested or produced from natural resources. How and what people eat determines the way in which they relate to the natural and cultural worlds. Connections to food are determined by cultural practices, which in turn influence modes of production and transportation. People's choices and habits of consumption have a significant impact on the health of their bodies and of the environment.*

- Growing, harvesting, preparing, sharing/distributing food
- Healthy natural foods
- Food origins
- Food celebrations – feasts and harvest festivals

## Waste Minimisation

*Natural resources, encompassing all living and non-living things, are constantly being used and re-used through a multitude of cycles that keep ecosystems in balance. Elements of ecosystems are highly inter-related. Humans have a major impact on the balance of environmental ecosystems when their consumption and wastage of natural resources exceeds nature's capacity to renew and regenerate.*

- Natural resources in the garden
- Recycling and re-using waste – compost, mulch, worm-farm
- Cycles of matter –soil production, green manures

## Energy Efficiency

*All energy comes from the sun. It flows through the ecosystem in the form of carbon-carbon bonds that plants produce through photosynthesis and is released through processes of respiration. Energy is then transferred to consumers through the food chain. Energy is an open system and does not recycle. Energy that is not used by organisms is lost as heat. When organisms decompose, their inorganic nutrients are returned to the soil or water to be taken up again by plants for photosynthesis.*

- Flows of energy - food chains and food webs
- Maximising energy transfer through the garden

- Minimising energy consumption in transport, packaging and marketing by promoting local food production

## **Water Conservation**

*Water is used either as a solvent or reactant for just about every chemical reaction that occurs in living things. Availability of water is dependant on rainfall, drainage and water retention, vegetation and soil cover, and animals and plants. Water has particular properties that affect the manner of its catchment, storage and distribution.*

- Properties of water
- Behaviour of water
- Water cycle
- Catching, storing and distributing water in the garden