

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. The shapes are primarily triangles and polygons, creating a dynamic, layered effect. The overall composition is clean and modern, with the text centered in a white space.

What are some of the issues
the world faces today?

Food Production

What are some of the issues around growing food today?

Problems Around Food Production

- ▶ So much land is being used to raise cattle that there is not enough land to grow crops
- ▶ Buildings, cities etc. are covering growing land with concrete.
- ▶ The world population is growing so more food is needed to feed the growing population.

What do plants need to grow?

- ▶ Water
- ▶ Light
- ▶ Food/Nutrients (minerals from soil)
- ▶ Air
- ▶ Structural Support

So, if we don't have enough
soil to grow plants what
could we do?

Hydroponics

Does anyone know what that means?

Hydroponics

- ▶ Hydro comes from the Greek word which means water
- ▶ Ponos means labour or work
- ▶ So Hydroponics means using water do to the work



So, how does the plant get what is necessary to grow?

- ▶ Hydroponics is a method of growing plants in water without soil. The water must be enriched with nutrients and the plants need some type of inert medium to support the root system.



History

- Hydroponics is the growing of plants without soil.
- Ancient civilizations have applied the principles of hydroponics from the floating Aztec gardens to the hanging gardens of Babylon, as well as hieroglyphic evidence of hydroponic plant cultivation in ancient Egypt.



Fig. 2. Hanging gardens of Babylon. N.d.
Purple "O" Purple. N.p., n.d. Web. 20
Nov. 2011



- ▶ To stop the water from growing stagnant and green, the water travels along the tubes so that it is constantly moving.
- ▶ Fertilizers are added at one end and the waste water is disposed of at the other end.
- ▶ Do you see any problems with this system?

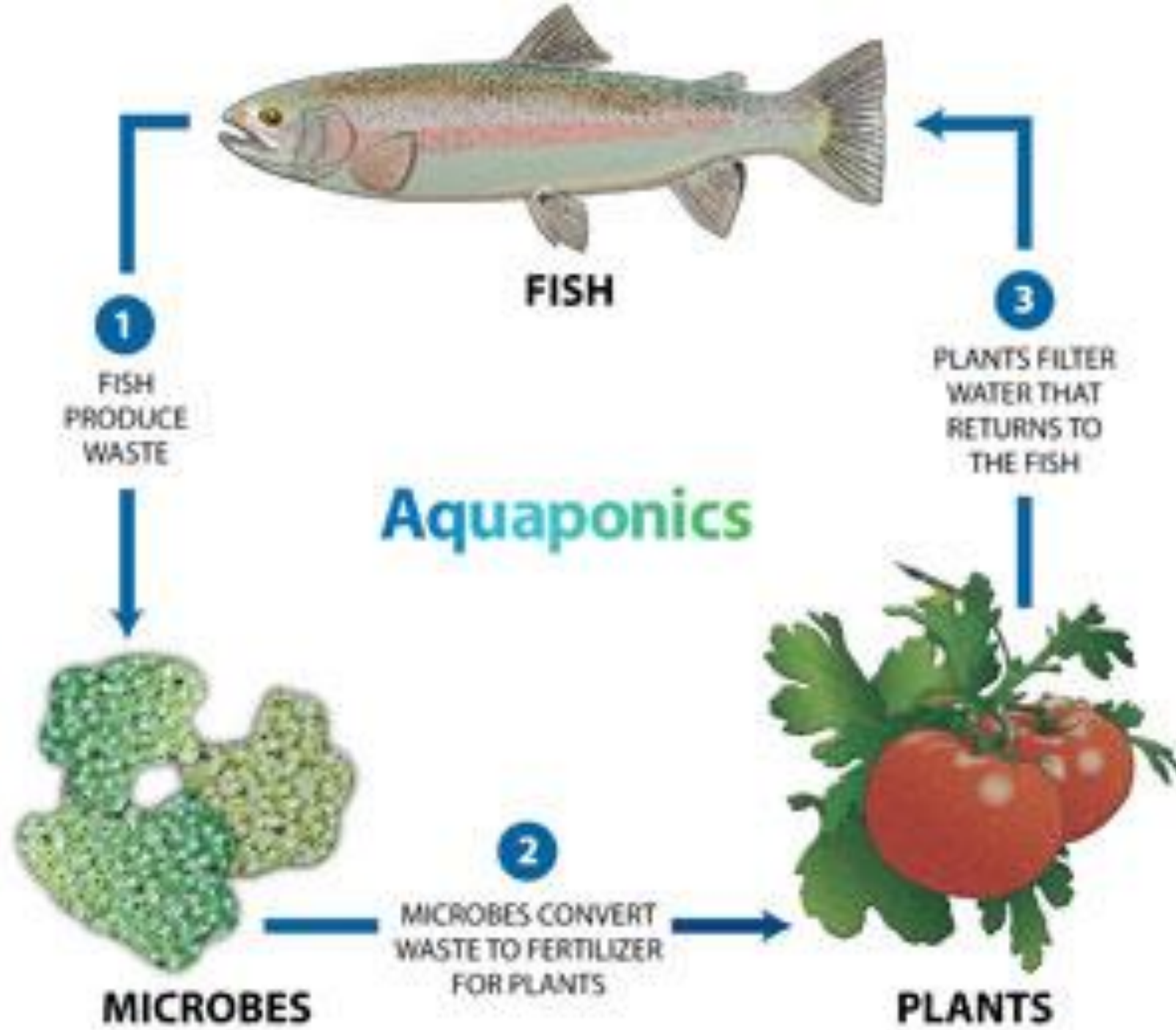




Hydroponics VS Aquaponics

How might aquaponics solve this problem? Look carefully at the picture.





BENEFITS OF HYDROPONICS



No Soil

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Fast Growth

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Less diseases

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Water-Saving

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Higher Yields

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Affordable

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Less pesticide use

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Footnotes

[Istockphoto.com/photos/hydroponics](https://www.istockphoto.com/photos/hydroponics)