

## INNOVATION

Eunice Murathe

In a small backyard, Cinzia Torriani, a Grade 10 pupil at Aga Khan Academy grows vegetables, rears chicken and Tilapia fish.

The chicken coop sits on top of a fish tank which has an outlet at the bottom, connected to a pipe leading to a garden.

Cinzia's demo garden is an innovation in Funzi, South Coast that seeks to teach farmers new ways of supplementing their food as fish catch from Indian Ocean dwindles.

"My project aims to promote sustainable economic and ecological development by creating a prototype self-sustainable community-based integrated farming system. Big words, smaller concept," she says.

The system works like this. Manure from the chicken coop falls into the fish tank. The fish feeds on this waste, then they create their own waste. The waste sinks to the bottom of the fish tank. "The floor is then purposefully slanted both horizontally and vertically to ensure a gradient by which this waste can collect at an outlet. This natural fertiliser and water can be used in the garden as manure," she says.

She says the crops when harvested can feed both the fish and the chicken, as well as humans. "Families are able to grow crops on land and feed their animals during the dry season. They also no longer have to spend hours out in the sea fishing only to get three to five fish to

# A Girl With a Good Veggies, Fish Idea



**INNOVATIVE GARDEN** The chicken coop sits above a fish tank where an outlet at the bottom of the fish tank connected to a pipe leads to a crop farm. PHOTOS/COURTESY

feed a large family," she says.

Growing up next to the sea, Cinzia watched as fish population reduced.

"The same fish I would see swimming around the jetty aged seven were less than the ones I would see aged 12," she says.

"Seeing the problems that farmers faced as they relied on the unstable factors of the ocean and the climate, I

aimed to eliminate the dependency on these factors, eradicate the harvest time, decrease costs and maximise productivity by combining different systems together. Farming and fishing could all be done in one system," she says.

Cinzia says locals are making inquiries and she hopes to get investors to build such projects in the community.

Now she is creating awareness about



**CINZIA TORRIANI** who is behind the farm project.

the need to implement such self-sustainable systems.

"I made a presentation on the project at the annual TedX Youth Talk in Mombasa. I will soon showcase it at the Global Education Fair in Dubai," says Cinzia.

The innovative agricultural system took about one month from collection of the materials to making it.

"We were building during a tricky time due to the rainy season. On average, each prototype system could take two weeks to a month for construction depending on circumstances," she says.