

A Growing Success



The old buildings are not exactly impressive. Standing on a narrow piece of flat land with wide ponds on all sides, they are not supposed to impress you. The low redbrick buildings are used, first and foremost, as a barn for storing feed. But, they are also used as a storehouse for tools and as a shelter—both during the hottest hours of the day (around noon) and during the night, by the guard. The complex works well in all these capacities. But, from the look of the place, you would never guess that this is a place for making money, and on quite a large scale at that.

The modest buildings are a true reflection of the business philosophy of farmer Pham Van Ung and his business partner and wife, Ta Thi Tram. If you ask them how they have spent what new money has come their way in the last few years, they will politely disregard the question and any implication that consumer goods are piling up in their nearby home. The money has not simply been 'spent', it has been reinvested.

If you look out through the 'sitting room' window of the house which overlooks one of the giant ponds on the farm you will understand why. This place has called for the early investment of time, hard work and money, so that it could be built-up. The more so, because this impressive venture is only 10 years old as a business.

Ung and Tram were both born here, at Tam Hiep Village. This village sits in the green landscape that stretches beyond the western limits of the Vietnamese capital city of Hanoi. They both come from subsistence farming families, each of which was always only just able to make it through the year. Both will confirm that, in those days, it was a permanent struggle to ensure both your own and your family's survival.

Ung and Tram now have four children. Their own married life began as just as much of a struggle as that of their parents. Slowly, things began to improve about 10 years ago, and today, they agree smilingly, their income is ten times better. How did this happen? Well, there were a number of reasons and we will take a close look at them shortly. But first, we need to cross the ocean and travel to the Philippines.

Room for improvement

Fish pond culture is an age-old technique in Asia and is a part of the agricultural landscape of most countries in the eastern part of the continent. Technologies have, of course, been improved over the centuries, and it looked as if the methods had been improved as much as was possible some decades ago. But there are a lot of factors involved in fish culture. These include feed quality, the number of fish in the pond, the mixture of fish that are cultured together, water quality, the optimal time for catching the fish, and pond size and design. Still, these are only a few of the things that should be considered when you culture fish. There are many more factors of importance, as both farmers and researchers will tell you if you do not stop their enthusiastic lectures when you visit their ponds.

Now, one factor previously regarded as given was the fish themselves. You could choose from many different types which would grow in your



An overstocked pond being reoxygenated to prevent the fish stock dying. Time and money can be saved with better knowledge of pond management.

pond, most of which belonged to the carp family. But, all these fish were products of nature, taken from the wild and kept in ponds. They would grow in your ponds, but the results they gave were not, necessarily, very impressive. But, if you compare a fish farmer's pond with a farmer's field, this seems a little strange. No one these days would dream of going to a meadow to pick a wild grass (a distant ancestor of wheat, for example) and then growing it in their field. A farmer would not regard such a grass as anything other than a weed to be got rid of. Modern wheat, and all our other important agricultural crops (and livestock for that matter), are a result of millennia of selection and breeding by farmers and scientists. Why? To give improved species. Why else?

Yet, this was not so with fish. At least, not until recently. The WorldFish Center, whose headquarters were in the Philippines until recently, worked on all the factors involved in improving and refining the techniques used in fish pond farming. And, as scientists always do, the researchers there questioned their own wisdom. Why are we working on every aspect of fish farming but not the fish themselves?

To cut a long story short, they came up with an improved strain of the tilapia fish, originally an African species. This new strain was developed as part of an international effort led by the WorldFish Center over a number of years, an effort which led to a very promising result in the mid-1990s.

The scientists knew that they had delivered an impressive new product. Tests were run at the research stations of the WorldFish Center and at partner institutions in the few countries involved in the early years of the improvement programme. These showed that the fish grew faster and survived better than its wild relatives, while still feeding mostly on whatever was found in the ponds; they required little additional feed.



Feeding time on Pham Van Ung's farm. The water teems with fish, some of which will be sold to neighbours as fingerlings, while others will be raised to a marketable size.

The fish had been tested on farm as well, with the collaboration of some farmers. But now the researchers wanted to test it on a larger scale involving more countries, to see how the fish performed in different settings.

In the real world

At the moment, you really just need to remember the name of the fish, tilapia. Now, we are going to ask Tram and Ung to explain to us how things have been arranged on their farm, and how it has worked, since they started their fish business 10 years ago.

Then, as now, they did not own the land from which the farm operates. They have rented it from the local government on a five year contract. The lease is high, so they have to be productive if they are to be able to afford to pay it. Theirs is a split farm, with plots in three locations. Altogether, the farm consists of 10 ha. The couple used to grow rice in their flat fields, which is the crop grown by most people in the area. The rice was irrigated for part of the year with water from a network of canals. But, today, there are no fields to be seen. Bit by bit, the couple have changed their lands into ponds, until a more accurate description of their landholding would be 10 ha of water. Or rather, 8 to 9 ha of water, since some space is taken up by dykes and small plots of fruit trees.

The couple joined the Hanoi Farmers' Union early on and learned a lot about their new trade, which originally consisted of only one small pond in which they grew carp. They picked up everything there was to learn on the techniques they used. Tram admits smilingly that she has eagerly used the opportunities she has been given to learn more. Last year, for example, she attended 10 courses, most of which lasted 2-3 days. She is presently vice-chairperson of the Farmer's Union, so she

has to keep on top of her trade. Frequent follow-up visits, by extension workers from the Ministry of Agriculture, have helped the couple a lot as well.

Over the years the fish market has improved, offering the couple better prices. And, looking back, they admit that their start was a bit primitive, as compared with their professional handling of the fish these days. They have learnt how to feed and take better care of their fish. Because of this the quality of what they sell is so much better today, ensuring that they get the best price for their fish when they harvest their ponds.

Nearly a clean slate

The Vietnamese Research Institute for Aquaculture, RIA 1, near Hanoi, is one of the partners who worked to spread the improved tilapia strain. Other countries involved were Bangladesh, Thailand, China and, of course, the Philippines. These countries worked to assess how well the fish functioned under the conditions offered by their farmers. But, they also continued to work to improve the strain as needed, in order to ensure that it adapts as well as possible to the climate and the waters of different locations. At RIA 1 they are doing exactly that right now. They will have, one day in the not too distant future, a 'local' improved tilapia which they can offer to farmers.

But Tram and Ung are quite happy with the strain they have had since 1996, when they were given a few grown-up, improved tilapia fish. These provided a parent generation for their ponds. By the next year, they had produced an impressive number of fingerlings, as they and the researchers who followed their experiment noted. The first thing they observed was that the fish were hardier than anything they had previously produced in their ponds: 95 per cent of the young fish survived. The carp they kept in their other ponds would perform at pretty much the same level



Pham Van Ung and his wife, Ta Thi Tram, cannot help smiling as they tell us how successful their farm has been over the past few years.

when young, but were vulnerable to disease. So, quite a number would be lost over the season. In this way, the tilapia grew, filling up the couple's waters. In fact they could be 'stocked', as the professionals call it, at much higher densities (many more to a pond) than the carp the couple traditionally farmed.

Now and again, the couple were able to compare the new fish with a local strain of tilapia, which some farmers had tried out in the surrounding villages. That fish had never been a big success, growing to around 100 g in a year. The new tilapia was a different story; in a year it would grow to a nice size (600 g) for market. And, they did not need any more care or more food than the old tilapia strain.

Of course, the carp would do even better, growing to a full kilogram. But, as we noted earlier, fewer would survive, and there was not room for so many in a pond. So, the end result is a much higher production overall for the new tilapia. This production amounts to 25 tons of fish harvested from Tram and Ung's farm each year.

The price the fish brings in changes over time as the market varies, but right now each kilo of tilapia will fetch a little over US\$ 1, whilst carp has fallen to around US\$ 0.60 per kg. So, it is no wonder that all the ponds are stocked with tilapia these days, from young fry to market-weight fish. Stocking the ponds with fish of different ages means that there will be fully grown fish available for market all through the year, so there is always a ready supply of cash. This is definitely needed, with 10 people working for Tram and Ung in the fish business.

It is true that tilapia is now being farmed everywhere in Vietnam, and that nearly 75 per cent of the fish farmed are of the new strain. But, lately, a new fish has appeared from another part of Vietnam and, since



Tram and Ung's son inspects the storehouses on his fish farm in Tam Hiep Village, Vietnam. Behind these modest buildings are the ponds which, with good management, have made this farm a very successful enterprise.

it works well with tilapia, it is being tried out on fish farms. As is true everywhere, news creates interest, and the market is prepared to pay a good price for the latest fashion in fish. So, of course, businesspeople like Tram and Ung are trying the new fish out. But, they have no plans to abandon their tilapia. That fish has simply been too good a product for them to do that. And they see no end to the happy tale of tilapia on their farm. Instead, they trust that their children, who are all grown up and who have taken jobs or are studying elsewhere, will some day return to the farm with their families. The couple hope that their children will take over as professional fish farmers, having picked up the profession while they were youngsters working with their parents.

Selling the news

Tram and Ung's next-door neighbour is busy. This morning he found a few dead fish floating on the surface of one of his ponds, good fat ones of just the right size for a full meal. He knows exactly why they have died: his part of the tilapia story has been a bit too much of a success.

He was among the many who came to look and be amazed by Tram and Ung's new fish farm. Impressed, he took advantage of the fact that, as soon as Tram and Ung had more fingerlings than they could use in their own ponds, they started selling them to the villagers.

But not everybody had as much experience with fish ponds as Tram and Ung. They did not know that even if you can afford to load a lot of tilapia into your pond, there is a limit to what the pond can support. With their fast growth rate, tilapia require a certain amount of oxygen. What happened in the neighbour's pond was that the oxygen level dropped during the night, when the 'sleeping' plant life began to use, rather than produce, oxygen. This is always a danger.

So, now the neighbour is busy pumping new water into the pond, splashing a lot to mix fresh air into the water, and making sure that no more accidents occur for now. He explains that tomorrow, when he can gather enough people and organise transport, he and some helpers will pull a net across the pond and thin out the bigger fish. Then he will take them to market. Meanwhile, he is saving for a modern, efficient floating propeller, which will make sure that the oxygen level in the water never drops too low.

Making different money

Nearer to Hanoi, a different farmer has realised that agricultural land next to the city is, these days, too expensive to use for agriculture or even for aquaculture. But what is he to do? These trades made up his living. Searching for new options, he met with investors from town who had some new ideas about how to combine his skills and land with their money.

So, now when you travel west from Hanoi you may come across the Son Thuy Eco-Tourism farm, the very name of which ('Mountain and Water') implies its links with nature. It has been open only one year and, besides the restaurant on the lakeshore and the roadside cafeteria, much of it will look like a construction site for another six months. But, you can glimpse the master plan already in the traditional garden of stones, water and ornamental plants near the entrance and in the orchid house which is also still under construction. If you take a walk to the back of the site, you will stroll through a growing fruit tree plantation with rare fruits. Keep walking, and you will arrive at a just-completed pigsty, ready to be filled up with pigs which visitors will be able to look at, feed and even buy.



The Eco Farm Restaurant near Hanoi, where visitors will soon be able to eat fish they have caught themselves. Tilapia will be the main course for most.

The centrepiece of the park, however, is a giant fish pond. Right now it is mainly used as a rearing ground for shrimp fry which are kept in netting. But it is gradually being stocked with fish, so that amateur fishers can stand along the shores and fish with rented fishing gear. In Vietnam, having the time and the peace to indulge in this pastime is regarded as a very good thing. There, fishing like this is thought of as one of the best ways to ensure you are in harmony with yourself and with your life.

And what will they catch here after they have paid their fee? Why, nothing other than the improved strain of tilapia, which is entering into a career that was probably never imagined for it by the scientists who invested years of hard work and imagination to benefit the poor.

Of course, they succeeded, and we would not wish to take that result away from them. Tam Hiep Village can certainly testify to their success. Those cityfolk taking a trip back to nature will gladly confirm that tilapia is a success—at least they will if they have a lucky day's fishing. But in truth, how could anyone fail with this wonderful fish?