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## The Mushroom Season has begun....



*Hoang Duc Bua seen here tending his Linh Chi mushrooms that have already sprouted.*

The last quarter of the year was a busy time at the mushroom centre as they prepared for the beginning of the mushroom growing season. The cooler weather being conducive for growing Linh Chi mushrooms, 100 farmers received ready-to-fruit blocks of mushrooms and have already seen their mushrooms sprout. They will have two harvests during the course of the season which ends in March 2013.

Recent renovations and equipment upgrades have enabled the Mushroom Center to provide ready-to-fruit blocks to the increased number of farming families for the first time. These families received training and refresher training to prepare them for the season. Staff from the centre and the farmer's union closely monitor progress of each farmer.

"The families are delighted and eager to grow Linh Chi for the first time," said Loi Ngo, Manager of the MwM program. "Many people were skeptical if we would be able to grow this mushrooms in such harsh weather conditions in Quang Tri Province" he added.

"Once the new building is completed it will house state-of-the-art equipment funded by the government of Japan, and we will be in a position to provide more blocks to our farming families" said Dr. Ai Ta, Technical Manager of the program. He said "A grow house can accommodate up to 3,000 blocks and the farming families are waiting to increase the number of blocks once production increases at the facility."

Hoang Duc Bua, a father of five children, spends a couple of hours everyday to tend and take care for his Linh Chi mushrooms. In 2010 he joined the MwM program and was trained to grow wood ear mushrooms which he did successfully. This is the first time he is growing the valued Linh Chi mushroom and is excited as he is expecting to earn much more money this time round.

Before the season is over an additional 45 farmers will join the program. They will grow wood ear mushrooms and have already received their training.



*Le Luong and his wife, residents of Trieu Hoa Commune, Trieu Phong District, receiving Linh Chi blocks. Additional income will help them support their children's education.*

## Refresher training and 30 more farmers are trained



*Senior Technical Officer Huynh conducting the technical training for farmers*

Training is an essential component of the program. Each farmer undergoes training on mushroom cultivation. There are several components to this training: Introduction to fungal biology, techniques for growing different species of mushrooms on different substrates, pests and diseases of mushrooms- causes and preventive methods, controlling contamination and harvesting and processing. Training is done in house by MWM technical staff.

In addition to the technical aspects of mushroom cultivation MWM Finance Officer conducted an accounting training so that farmers will be able to track their income and expenditure in a simple format. An officer from the farmer’s union conducted a training in formulating a business plan.



*Finance Officer Hang conducting an accounting training class for the farmers*

Just before the growing season began all the farmers were invited back to the facility for a refresher training with a focus on growing Linh Chi mushrooms.

The project has signed up with Viet GAP (Good Agriculture Practice) Certification and training is an essential component. Viet GAP officers have trained all the MWM farmers so that good practices are carried out during mushroom farming.

A very important follow up to all the training is to monitor each farmer. As they are new to the techniques they will need to be guided constantly especially where disease control and contamination are concerned. Project staff and farmer’s union officers have a regular monitoring mechanism.



*Senior technical officer Huynh is seen at a farmers grow house advising her on placing mushroom blocks*

## Mushroom cultivation a regular occupation



Delighted to see her Linh Chi mushrooms sprout, Nguyen Thi Lien, a 36-year-old mother in Cam Nghia Commune of Cam Lo District, says she wants to pursue mushroom cultivation as a regular occupation that will enable her to better her living conditions.

A single parent of two children aged 13 and 8; Lien

**“I work all day long but can not afford to provide for my children. Now I’m glad to be able to grow mushrooms right at my home”**

earns her living by working as a freelancer on a daily basis. Her daily work varies from day to day, from cutting grass to loading cassava, from which she earns roughly 60,000VND (or \$3 USD) per day. This income is insufficient to bring up and educate her children.

Her life has changed after she joined the Mushroom program. With support from the program, Lien received a grow house, training and the ready-to-fruit blocks of Linh Chi mushrooms. She hopes that the income from selling mushrooms will ease her daily burden.

“I work all day long but cannot afford to provide for my children. Now I’m glad to be able to grow mushrooms right at my home,” said Lien. “I look forward to receiving more blocks to grow mushrooms so I can increase my income.”

## Spawn production brings additional income to the program



*Stored spawn in the laboratory*

Production of spawn is an essential process for mushroom cultivation. There are several types of spawn for each type of mushroom. There are three steps involved in spawn production. 1) raising of pure culture 2) preparation of master culture/ mother spawn and 3) multiplication of spawn.

Spawn is produced by inoculating a pasteurized medium, usually grain, with the sterile culture (grown from spores) of a

particular mushroom. Spawn is added to the sterilized/pasteurized substrate under hygienic conditions, in an enclosed space, and mixed thoroughly to ensure mushroom mycelium grows evenly throughout the substrate.

At the mushroom centre in Cam Lo spawn is produced not only for the farmers on the program but also for external farmers in the Quang Tri and neighbouring provinces.

Last year spawn for Linh Chi Mushrooms was produced at the laboratory for the projects' farmers and this year wood ear spawn is being produced for additional farmers who have just joined the program as well as for external farmers. In addition to the above, oyster mushroom spawn is produced in large quantities for external farmers. The sale of spawn to external farmers is an important source of income to the project.



Technician Huynh producing spawn culture

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We appreciate the ongoing financial support of concerned organizations and individuals like you. Your contributions enable us to bring more marginalized families into the program.

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## Renovation of a green house for a communal grow house



*A green house at the facility was renovated to a communal grow house. The communal grow house concept is new and is in the pilot stage. 14 new farmers will be trained and will take ownership of the 15,000 mushroom blocks consisting of oyster and wood ear mushrooms. They will work as a team and will plan and execute their work. If this pilot project is successful the project plans to extend these communal grow houses to villages in the province.*

## Shiitake – A pilot project

The project has embarked on diversifying the species of mushrooms they grow. A pilot project to grow Shiitake mushrooms commenced as soon as temperatures dropped in November at the centre.

Wood logs were transported from the mountainous Huong Hoa District and Dr. Ai and the technical staff inoculated Shiitake spawn into the logs. Inoculation is done by drilling these logs and inserting the spawn. The holes are then sealed to seal in the moisture and protect against contamination. The logs are then stacked for a period of incubation. First “fruiting will normally occur between 6-18 months. The environment has to be monitored carefully in order to maintain high moisture content.

Shiitake mushrooms will be experimented on rubber-tree sawdust substrate blocks as well. The Shiitake experiment at the Mushroom Center will make way for the beginning of a project in the mountain areas where the climate is cooler and more conducive for growing Shiitake.



*Logs being prepared for inoculation of Shiitake mushrooms*

### About shiitake



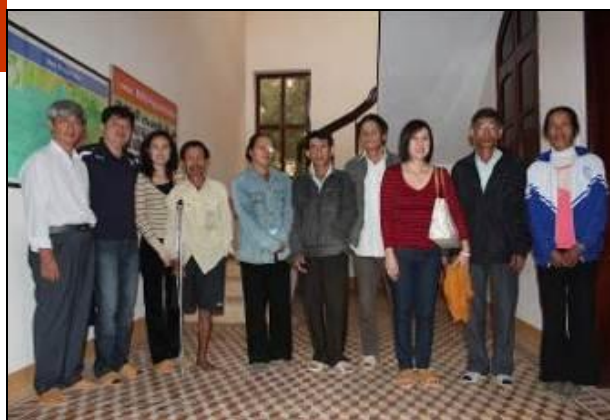
The Shiitake (*Lentinula edodes*) is an edible mushroom native to East Asia. It is also considered a medicinal mushroom in some forms of traditional medicine. The name shiitake originates from the Japanese language. “Shii” is the Japanese name of the tree *Castanopsis cuspidata* on which shiitake mushrooms naturally grow. “Take” simply translates as mushroom. Shiitake mushrooms have been used medicinally by the Chinese for more than 6,000 years. The special combination of antioxidants found in shiitake mushrooms together with their highly flexible support for immune system function make them a natural candidate for providing us with protection from a variety of problems involving oxidative stress and immune function. This includes rheumatoid arthritis (RA), an area that has begun to interest shiitake mushroom researchers. Although research in this area is preliminary, we expect to see large-scale human studies confirming the benefits of shiitake mushrooms for prevention of RA.

Medicinal extracts from shiitake mushrooms have well-documented effects on a variety of micro-organisms, including bacteria, fungi, and viruses (including human immunodeficiency virus-1, or HIV-1). While we have yet to see large-scale human studies on whole food intake of shiitake mushrooms and decreased susceptibility to colds, flu or other problems related to unwanted activity of micro-organisms, this is a very likely area for future food research and discovery of health benefits.

### Visitors at the Mushroom Centre

In December 2012, Ms. Van Vo from the United States and her friends visited Cam Lo to see the activities at the facility. They also met and talked with six of the farmers sponsored by the Vietnamese diaspora supported by Madam Nguyen Cao Ky, family and friends. They then visited several farmers at their homes to see their Linh Chi mushrooms.

Picture shows Ms Van Vo (3rd from R), her friends and sponsored farmers at the facility.





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**About NAMUS**

NAMUS is the official trademark of the brand of mushrooms grown by UXO survivors in Quang Tri Province, part of Mushrooms-with-a-Mission (MWM), a program jointly implemented by Project RENEW and New York-based Humpty Dumpty Institute (HDI). RENEW has worked for 10 years to clean up bombs and mines in Quang Tri Province, reducing accidents and injuries and improving the lives of victim families. HDI is a non-profit humanitarian organization which has conducted post-war poverty-reduction and mine action programs in Angola, Armenia, Eritrea, Lebanon, Mozambique, Sri Lanka, Laos, and now Vietnam.

MWM supports victim families and poor communities in ERW-affected areas in Quang Tri Province by creating jobs for people with physical disabilities, helping them achieve stable incomes and contributing to socio-economic improvements in the communities where they live.

MWM ensures that growers will be able to earn a good income from their mushroom products. Profits from the program will go back to support Project RENEW's humanitarian activities including ERW cleanup and removal programs, and to expand opportunities for more victim families to join the program.

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