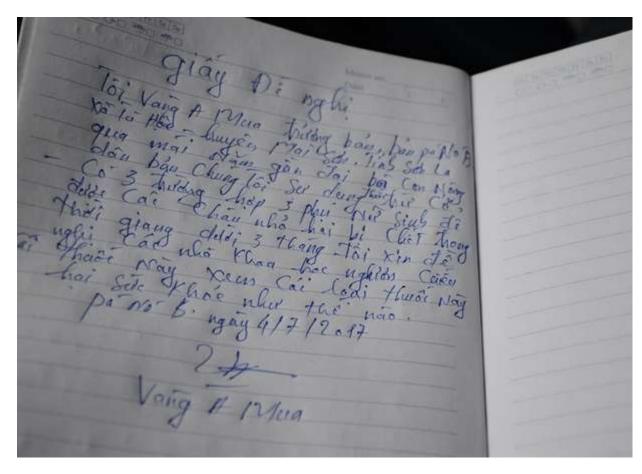
The hidden developmental malformation behind corn fields full of herbicide

There were at least five people suffering miscarriages suspected to be the consequences of herbicide in Ngu village of Yen Chau district, Son La province

Village regulation on prohibition of toxic substances

Unlike other agricultural materials such as seeds and fertilizers that farmers can purchase by deferred payment at the very high interest rate because of their high prices, the herbicide's price is very low. In addition, the farmer's abuse of herbicide is attributed to superficial warnings or even exaggeration of the benefits of the business sector and management bodies.



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The petition of a village head and a woman suffering miscarriage twice

In Son La province only, the use of plant protection products including herbicides has increasingly grown in the recent years, from 58,907 kg (litter) in 2010 to up to 287,247 kg in 2016. It means that each hectare of agricultural land consumes one to two litters of this toxic substance, or even hundreds of times more if calculated in terms of dissolution rate. According to the Diep Du sales agent in Chieng Pan commune, Yen Chau district, Son La province, one hectare of corn field needs 18 kg of seed (equal to two million VND), one tone of various fertilizers (five to six million VND) and about one million VND of herbicide. Despite of the precautions, farmers often overuse this toxic substance. For instance, they use up to 15 bottles (900 ml each) of either quick or slow effect herbicide instead of seven, or two kilos of powdered herbicide instead of one kilo, making the total use of both types up to 50 – 60 bottles (18 litter each).

Also according to Mr. Diep, the agent's owner, the price of quick effect herbicide slightly drops from VND 70,000 – 75,000 per bottle to VND 60,000 – 65,000 per bottle since the prohibition became effective, and the companies offer lower prices to their sales agents in order to clear their stock as soon as they can. Sales of plant protection product is a conditional business, which requires closed warehouses to minimize the toxic effects. However, to maximize profits, many grocery stores sell ice cream, instant noodles, clothes and shoes and plant protection products as well.

Amid the growing danger of herbicide poisoning over the hills and mountains, the fields, rivers and streams in Son La province, very few people knows that there is a small village that has set out their own village regulation to prohibit the use of toxic substances. That is Ngua village of Thai ethnic minority with the population of 700 people living in 153 families in Chieng Pan commune, Yen Chau district, Son La province.



Unfortunate fates behind the corn fields

"Soil needs trees and grasses. Traditionally, people cut weeds for composting green manure. Now they kill weeds, making soil infertile. We suspect that herbicide is most likely the root cause of poisoning and miscarriages in the village. Moreover, as the village water source comes from Hua Dan stream high above, so if this source is contaminated by herbicide, it will no longer be used." - The village elder Luong Van Chua explained.

It was indeed a hard work to set out such a village regulation on prohibition of herbicide. Regardless of noon time, the village elder took us around the village to witness the death journey of herbicide. The first person we met with is Ms. Vi Thi Hoang, the daughter- in- law of the village head Lo Van Hung.



Ms. Vi Thi Hoang gave premature births twice

Traditionally, after marrying a beautiful Xinh Mun ethnic girl from Ta Vang village, Long Phieng commune, Mr. Hung's son lives with his wife at her parent's. Everyday, they work very hard on the field and spray a lot of herbicide as many others. His wife, Ms. Hoang was pregnant twice and gave premature births. Their first baby named Lo Van Khanh was born when she was in pregnancy for just seven months. Therefore, the baby was placed in a medical incubator for ten days for special care. Unfortunately, he died when he was only five months old. The second baby named Lo Hoan Anh was born after her eight months of pregnancy, and she even died in the incubator .

"Herbicide has no special smell, hence, nobody knows how to stay away." - Ms. Hoang said. Having been so scared of the herbicide effects, the village head asked his daughter-in-law to stay at home and do not expose to herbicide. Finally, she gave birth to a very healthy baby named Lo Nhat Minh.

So only in a small village, there were at least 5 people miscarrying due to herbicide. They are Ms. Lo Thi Nhom (one time), Ms. Lu Thi Dung (one time), Ms. Lo Thi Tham (one time), Ms. Hoang Thi Thuong (1 time) and Ms. Luong Thi Van (twice). Their miscarriages happened after they sprayed herbicide, or even just when they helped their husbands pour herbicide into the can.



"The fetus was as big as a fist, fully having limbs, eyes and nose" – Ms. Luong Thi Van sadly said

Witnessing the toxics killing the descendants, the Ngua village's Elder's Council together with the village head gathered for a meeting to revise their existing village regulation. At first, a half of the villagers opposed to the decision, because they thought that it could be very

hard for them to give up the long-lasting habit of using herbicide. They said: "Herbicide is not prohibited by the Government. So why do we have to prohibit it in our village? Would we get into trouble".

Then the village leaders had to explain the villagers that they should have a vision on the long-term negative effects of herbicide on their generation and their next generations. They also analyzed the suspected cause of the poisoning cases happening in the village to convince the people. Then they asked the villagers: "Person who violates the regulation, causing diseases and deaths must be responsible before Law. Who dare?". But no one answered.

Finally, the village regulation on herbicide prohibition came out in 2012, in which it is clearly stated: Person who violates the regulation for the first time shall be criticized by people's organizations; person who violates the regulations for the second time shall be criticized by all villagers; and person who violates the regulations for the third time shall not be considered as a cultural family or get loan for production, and even have to do public work such as collecting garbage and empty bottles of herbicide.

Since then, there have been only 3 people violating for one time, including Mr. Luong Van Khau, Mr. Lo Van Hung and Mr. Lo Van Mai. These people had secretly sprayed herbicide in the evening time so that nobody could saw them. However, the consequences they left behind with the dead grasses lying on the field were the indirect evidence of their acts, forcing them to make a confession before the villagers.

Their worries are still there

Since Ngua village has forbidden herbicide, cases of poisoning and miscarriages have remarkably decreased, but the victims are still there, since other neighboring villages keep spraying herbicide. One of the victims, Ms. Luong Thi Van said: One day in 2015 I passed a newly sprayed (with herbicide) corn field and became allergic. At first it was just like mosquito bites and very itchy. However, the more I scratched, the more my legs became swollen, and I felt very hard to breath. So I must be hospitalized for detoxification. One week later, a blood test revealed that my two-month-old fetus had died. My second miscarriage happened in 2017. One day I passed another newly-prayed corn field. At that moment I did not felt itchy at all, but two

weeks later, I felt bad and went to hospital for checking. The doctor said that my four-month-old fetus had died due to my exposure to toxics, and he advised me to wait for another year before giving birth again.

Doctor Luong Van Quyet who works as the director of Yen Chau District Health Care Center and also has his own clinic at home said: Each year there are average 10 people coming to my clinic in emergency due to exposure to herbicide. However, only one third of them survives. Those who take herbicide are not able to eat because of esophagitis, mouth ulceration, liver failure, kidney failure and respiratory failure. They suffer trauma to death.



Doctor Luong Van Quyet, Director of Yen Chau District Health Care center said: "Women who expose to herbicide are at the high risk of giving birth to teratogenic babies"

Those who are pregnant and have open injuries, upon exposure to herbicide, will suffer a series of symptoms such as breathing difficulty, rash, fast pulse and low blood pressure, which are easy to be mistaken for sun stroke. Some get exposed accidently when taking care of cows on the fields.

The exposure to herbicide does not kill people right way. Instead, it causes long-time effects, possibly resulting to giving birth to teratogenic infants like Ms. Luong Thi Hay, who gave birth to a pumpkin-shaped baby without head and legs. Some women in the village suffered miscarriages in less than three months of pregnancy after spraying herbicide on the fields or passing the newly-sprayed fields by chance like Ms. Luong Thi Trang, Lo Thi Liem living in Chieng Sang commune. Some others went to see doctor because of blurred vision and incurable eczema. All of them admitted they had exposed to herbicide.

BY DUONG DINH TUONG