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*Mark Wahlqvist on Tu Giay*

# The nutritionist victor of the Vietnam war











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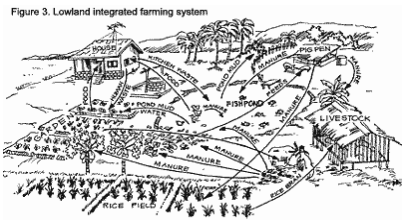







The agrononomist, physician, nutritionist, socialist, patriot, soldier and scholar Tu Giay (1921-2009) has had a vast impact on world affairs. He is pictured here as a young man on army service in the field, greeted by Ho Chi Minh (above, second from left), and later in his life (above and below). In the wars against the French colonialists and the US invaders, he showed the North Vietnamese armies fighting in jungles and rugged terrain how to protect their health. He devised durable rations for the soldiers, and instructed them how to live off the land and prepare meals safely when in tunnel systems (above). General Vo Nyugen Giap, the supreme commander of the North Vietnamese army, always stated that victory was made possible because of the achievements of Tu Giay. After the war his main commitment was to self-sufficient family and community farming, with the 'VAC' system that integrates human, animal and plant resources, for example with fish in rice ponds (below, left and right). He was the founding director of the Vietnamese National Institute of Nutrition. In Vietnam he is remembered and revered, and remains influential.

Few of us set out in life to be anything in particular, and Tu Giay was probably one of us in that respect. But in early life he was shaped by his keen awareness of the inability of his people to determine their own affairs. Vietnam was colonised when he was born, and then torn between two occupiers, the colonial French and the conquering Japanese, when he was a medical student in the early 1940s.

Born on 10 October 1921 in the village of Khe Hoi on the banks of the Red River, in the Thuang Tin district of what would become Hanoi, he had the added pressure of having lost his father when a child, and depended on his widowed mother. He won a scholarship to do medicine, and survived the colonial examination system which was designed to minimise the chances of 'indigenous' students. Here is an account by the author Henry Kamm (1,2):

> A poor village boy brought up by his mother, widowed at the age of 22, he won an essay contest after completing at age 15 the six years of free education provided by the colonial regime. 'I received a prize of fifty dong – piasters, we said then. But you know, that was a big sum, because to enter the lycée here in Hanoi one had first to take an exam. For all the north there were only 120 places in the *Lycée du Protectorat,* 120 for all of Tonkin. I passed. One had to pay four dong every month. Without the prize I couldn't have paid.

In 2010 the Vietnam National Institute of Nutrition, together with the Vietnam Nutrition Association, published an inspiring book-length illustrated tribute to Tu Giay. Its contributors include General Vo Nguyen Giap, and Tu Giay himself on his experiences, philosophy, and solution to food and nutrition security in war and peacetime, with many photographs. *The superb English edition can be accessed here* (2).

In my tribute to him here, I outline some aspects of his nature.

### *Being needed*

He often said: 'We need people who like to think, people who like to dream and also people who dare to act'. While he meant this for his country and time, he took this as self-instruction, and it serves as a universal doctrine, no less now. It is inspirational to consider how this informed his life and legacy. He became engaged in the events around him and with the communities, localities and forces that mattered and could make a difference for the better. As recollected by Henry Kamm (2):

> Tu Giay left medical school and went into the jungle at the end of World War 2, when Ho Chi Minh after the defeat of Japan called for a general uprising against the return of the French colonial power. 'You know, at that time it was a general movement', he explained, as though justification were needed. 'The young are enthusiastic. It was the revolution, and later came independence. At that time we didn't have the idea of communism, of socialism'.

His record was never one of subjugation to dogma of any kind. Actively involved with the Vietnamese communist party as a young medical doctor, he saw the creed and the party as a vehicle to address inequity, oppression and appalling health and nutritional

conditions. Half of all infants were dead before the age of 1, because of an almost total lack of maternal and child health care and irrelevant agricultural development, throughout the European colonial system that began from 1874 in Hanoi and 1884 for the whole country.

In 1945, the war with Japan was over. Vietnam was declared independent on 2 September. But on 23 September the French took control of Saigon (now Ho Chi Minh City). Henry Kamm again (2):

> For nine years, until the decisive battle of Dien Bien Phu in 1954, he was in the front lines of the war against France. A third-year medical student in the capital when the conflict erupted, he was sent to the front in the centre of the country, around the coastal city of Nha Trang, and began his professional practice by learning on the job as assistant to a surgeon. He served throughout Vietnam, north as far as the Chinese border and west to Dien Bien Phu, and in the inhospitable green mountains near Laos.

The nutritional and health strategies developed by Tu Giay during this period up to the French surrender, played a decisive role in his next wartime work. In accordance with the 1954 Geneva Accords, France withdrew from its colonies of French Indochina, but Vietnam was divided at the 17th parallel, with control of the north ceded to the Viet Minh as the Democratic Republic of Vietnam under Ho Chi Minh, and the south becoming the State of Vietnam. Elections by the whole country were required in 1956, but the south refused.

This led to another Vietnam war, this time against the USA. *In his 1998 paper* (3) for the *Asia Pacific Journal of Clinical Nutrition*, of which I am editor-in-chief, Tu Giay describes 1954-1964 as a 'short period of peace', but it was one in which work to improve food security in the north were being sabotaged by the south and its supporters. But he persevered, and with his team devised technologies to ensure food and nutrition security. These improved rice storage and quality, notably using the 4-bag rice pack; developed ecological gardening for green vegetables even where water was scarce; produced dried food for survival rations; identified 420 species of wild edible vegetables; promoted fish from pond-farming as animal-derived food; and invented new smokeless cooking methods.

The US began its invasion with combat troops in 1965. War was then explicit and escalated and lasted ten years until the South was re-united with the North in 1975 into the whole country of Vietnam, as it remains. Through this decade millions of soldiers and civilians were killed. The grass-roots public defence nutrition strategies under the direction of Tu Giay were crucial in the final victory. A young medical practitioner, who had wanted to be a surgeon, had become a champion public health nutritionist for his country and the whole Indo-Chinese region.

In 1980, he established the National Institute of Nutrition in Hanoi, which he directed until 1993. It continues to serve Vietnam with nutrition science and policy direction derivative of his pioneering work. His retirement was active as long as health

allowed. He died on 13 November 2009 aged 88, survived by three sons, six grandchildren, and seven great-grandchildren. His youngest son Tu Ngu, also a physician and nutritionist, retired from the National Institute of Nutrition in 2012 and works at the Vietnam Nutrition Association.

### *Being joyful*

Tu Giay demonstrated early on his capacity to capture the spirit of an enterprise, by editing *Enjoy Life* (*Vui Song*), a journal for soldiers and communities. It carried crucial information and practical advice for preventive health and health maintenance.

The Vietnamese commander-in-chief General Vo Nguyen Giap (1911-2013), *in his tribute to Tu Giay in 2001* (2), recalled its 'amusing pictures, easy-to-remember folk verses and witty answers'. General Giap paid tribute to the role this journal played in the 'public health protection' of the Vietnamese people during the struggle for independence culminating in the victory at Dien Bien Phu. More generally, he said:

> On the occasion of your 80th birthday, I express my congratulations that you have been granted by the State the title of Labour Hero. This is a deserved award for more than a half century of your tireless efforts for health and meal improvement for our people and army.

### *Being respectful*

This linking of joy, food and health was pervasive in Tu Giay's approach to life, particularly in adversity. He was also respectful. Henry Kamm once more (2):

> Twice during the fighting against the French, Tu Giay met with one of his old professors, Pierre Huard, a surgeon who had been dean of the medical faculty of Hanoi University. The first time was in 1950 near Cao Bang, where a major French base on the Chinese border had been annihilated. 'He came to get the French wounded while I was there. He recognised me. I had known him as my professor. He said, 'There have been many changes'.
>
> Nearly a half century after the encounter, Tu Giay appeared to cherish the friendliness that surely the Frenchman, who had come on behalf of the vanquished, was obliged to show the former student who represented the victors. 'And the second time we met at Dien Bien Phu. Again, he came to see the wounded. I had respect for my professor. We were friendly, like colleagues. It was not a problem for us. I retain respect for those who did me good. They were men like me, they had to follow military orders'.

### *Being a health carer*

Health systems are vital in diverse settings including conflict and deprivation. They fail when care is forgotten or neglected, or when it is subservient to managerialism. Their basic resource is human – health care workers of many kinds – but the usual role models are expected to be medical doctors and nurses. Tu Giay was such a role model in medicine, much as Florence Nightingale had been in nursing. He and she

were both committed to evidence-based work, and espoused statistical evaluation of their and other work, in the modern tradition of best clinical and public health practice.

### *Being ready*

Professional education includes knowledge, skills and attitudes, awareness of what is not known, and commitment to life-long learning. In health care there must be a readiness to act to the best of one's training and ability. Even so, what is remarkable about Tu Giay is that he quickly assumed enormous responsibility at a high level of performance. From a poor and marginalised family background this speaks volumes for his dedicated mother Nguyen Thi Coi, and his own readiness, ability, prescience and fortitude.

### *Being independent*

War was not his choice, but the struggle for independence was. For him this independence meant belief in greater opportunity to pursue a worthwhile life, in a community and society that was fair and without oppression and exploitation, with accessible and dependable health care. This was his driving force.

### *Being cultured*

He gained, retained and always developed a love for French and European language, literature, first learned at school in colonial days. He was 74 when Henry Kamm interviewed him (2):

> He speaks the flowery French of his youth and often in conversation underscores points by lovingly citing passages of French literature. His eyes closed, he appears to be reading pages of the past with his mind's eye. 'Anatole France, I think,' he said one day when asked whom he was quoting, feigning uncertainty, after what must have been two pages, verbatim and flowing. 'But my real love is French poetry'.
>
> Two romantic poems followed, no longer pertinent to the issue that had brought on Anatole France. 'You know, the poet I love the most is that German who wrote in French'. He closed his eyes once more and offered two verses from the *Buch der lieder* of Heinrich Heine. While the lyrical doctor lovingly recited translations of the German's songs of unrequited love, no doubt memorised from a schoolbook.

### *Being a teacher*

Once he entered the field of practice he became and remained a teacher, always identifying needs and ways to learn and improve people's health and well-being. For him this represented the best preparation and safeguard against adversity and for a fulfilling life. Many of the pictures of him, as in the 2010 tribute (1), show him teaching, listening and learning.

### *Being a research pragmatist*

His research acknowledged the need to understand the ecological basis of ill-health and how ecosystems might be put right to prevent and ameliorate sickness. Papers or research reports with which he was associated – he was a team player – recognise, diagnose and evaluate the problem (like malnutrition) and identify available, practical and affordable remedies, ideally culturally acceptable. In the *Australia Pacific Clinical Nutrition Award* he received in 1993 (4) for his contributions to the nutritionally-related health and well-being of the peoples of the Asia Pacific region, the citation notes that he was given to 'combining knowledge with action'.

### *Being principled*

The coherence and consistency of Tu Giay's philosophy which guided his work, across decades and under extreme duress, included respect and care for habitat and fellow-beings, the value of cultural heritage and of that of others, and awareness of the contribution that intelligent enquiry and research innovation and technology can make to a sustainable and healthy future. His misgivings came with the gradual loss in peacetime Vietnam of community agriculture, and with the commercialisation of health care. Many of the solutions he found to the troubled times in which he lived should now be examined and revived.

### *Being ecological*

In his 1998 paper (3), Tu Giay summarises his position:

> In protracted and recurrent conflict, the Vietnamese people have learned to minimise food insecurity through governance, mutual social responsibility, infrastructure development, ecological sensitivity, agricultural diversification and emphasis on family needs and traditional food patterns.

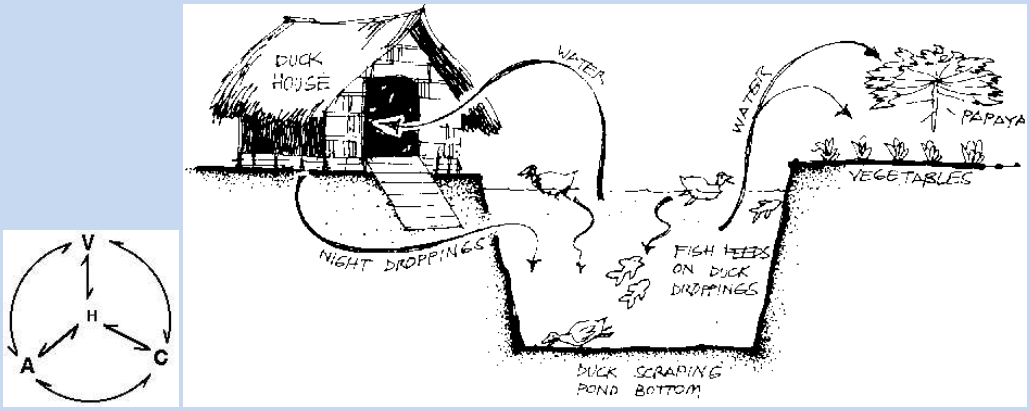
His great achievement is development of the agro-ecological VAC system, an acronym for local food systems that integrate (plant food) gardening, pond fish-farming, aquatic food production, and animal husbandry. It remains a model for all agro-ecological systems at all scales from small plot to large farm. (See Box 1 below).

Ultimately, VAC was challenged by increasing urbanisation. I recall his concern that it might fade away and vanish when it would be most needed. The efforts to sustain the approach are reflected in accounts of it made and recorded in several national and international meetings after reunification to address both ecological and nutritional needs. He also saw the benefits of VAC for personal and social well-being:

> Retired civil servants when practicing VAC gardening have had their health conditions much improved. The general opinion is that their chronic sickness has gone for good with time. Working in the open, and having access to fresh and wholesome food from their own garden, the gardeners can recover their muscular and body strength, feel happier, and as a consequence their sickness has become much less painful to them.

*Box 1*

## VAC ecosystems




*Extracted, adapted and edited from (2).*

The diagram or 'trade mark' for VAC is shown above, left. It is a farming system in which gardening, animal husbandry and water food culture are combined to yield the best lasting, economical results. In English and French, one can say that 'V' may be an abbreviation for vegetation, 'A' for aquaculture, and 'C' for cage for animal husbandry.

VAC gardening is a human ecosystem in which various practices are being combined. It can be pictured as follows. All products from V gardening (vegetables, beans, roots, tubers, fruit), from animal husbandry C (meat. eggs, milk) and from water food culture A (fish. shrimp, crab) will be used for the nutrition of humans; and the residues from V, A, C and humans, in their turn, are used to foster the system. A detail of the system is shown in the illustration above.

*Flexibility*

Residues from V gardening are also used for cattle rearing and fish farming. Those from C rearing after recycling can be used for tree planting, vegetable gardening or as feed for fish; and with A development, water can be used for irrigation, pond bottom mud for soil dressing, and small fry for animal feeding. With VAC all the potentials available are fully used in a wise manner, and residues are recycled for use. Pig breeding centres at district level should also operate for increased meat production, and fish breeding should be combined with the production of fish products for sales. Tree nurseries should also provide planting materials. Fish ponds should not be only for fish culture, but integrated into diversified biosystems, of which VAC with its garden, fish pond and cattle shed seem to be best.

In many localities where land is scarce, in particular in urban areas, VAC gardening cannot be practiced on large stretches of land. So it is always best to think of VAC as a flexible system, and to solve various problems related to water supply, fertiliser production, and animal feed procurement, according to the actual situations prevailing, using for this residues of all kinds and appropriate recycling methods to produce the necessary inputs, while improving the living environment of the areas. For fish farming, the same thinking and problem solving approaches could be also put into practice. Other considerations related to needed main inputs such as seeds, planting materials, improved breeds, and labour, may be involved.

Questions raised by the lack of product preservation/ storage, processing facilities or market outlets should also be addressed.

> Old men, and patients suffering chronic sickness when practicing VAC gardening can have an 'active' rest, because of better recreation, mental relaxation, and deeper love of Nature. All these make the gardeners happier and lovable.
>
> There are social benefits also. 'Gardening to foster new hopes in life' has been developed in some countries in which people have come to know that when they can get something to live from gardening, they may no longer think of doing wrong because of seeing no other way out.

### *Being published*

From his earliest professional life, he understood the value and power of the written word, preferably backed up with the spoken word, as evidenced by the many occasions when he expounded to assembled groups his writings on hygiene and sanitation. He wrote and published widely for lay, military and professional readers.

### *Being a leader*

Perhaps he did not seek to be a leader, but he became a great leader, in his later years also with the development of the National Institute of Nutrition, and of nutrition science formally. We may continue to learn from him.

### *Being disappointed*

On 4 June 1992 *The New York Times* carried an interview with Tu Giay, then director of the National Institute of Nutrition, together with a former Minister of Health, concerning health care in Vietnam. They lamented a shift to a 'market economy', the export of needed food, limited improvement in child and household nutritionally-related health, increased cost of medical care and drugs, and other constraints which meant that local people had to grow tobacco and sell cigarettes to stay alive.

### *Being family*

Nguyen Thi Lieu was his companion and collaborator through their lives together. They nurtured three sons who have all served Vietnam with distinction.

### *Being remembered*

A mark of a successful life is to leave the world a better place, and that what we have done to make it so, endures and is well remembered. Tu Giay saved a nation, its people and their habitat. Without him, Vietnam might still be immersed in ruinous conflict.

It has been my privilege, as editor-in-chief of the *Asia Pacific Journal of Clinical Nutrition*, to publish tributes to and papers by Tu Giay (3-5). Here I have quoted Henry Kamm, who in his book on Vietnam *Dragon Descending* sees Tu Giay as one of the greatest Vietnamese of his age. Below (Box 2) *WN* editorial team member *Claudio Schuftan*, who has lived in Hanoi and then Ho Chi Minh City for many years, pays his tribute (6)..

*Box 2*

## Claudio Schuftan – Tu Giay as I knew him

*WN editorial team member Claudio Schuftan has lived and worked in Vietnam, at first Hanoi and then Ho Chi Minh City, since 1995. This is adapted from his WN column of January 2013*

*His little green book*

As Mark Wahlqvist says, there is a nutritional aspect to the Vietnamese victories over the US troops. Tu Giay, who died at a great age in 2009, was an agronomist and biological scientist whose greatest achievement was to compile 'a little green book' given to every regular North Vietnamese army and Viet Cong soldier. This explained what plants in the jungle were safe to eat, how to cook with fire, but without smoke, and many other food and nutrition survival principles and advice. The soldiers also carried packed rations he had formulated in the most practical and cost-effective yet nutritionally sound manner.

I had the privilege to know Tu Giay personally, and met him several times during my Hanoi years. His second claim to fame came after national unification in the long period of peace and prosperity this country has now enjoyed.

*Integrated farming*

He is the father of the Vietnamese agricultural system and programme that integrates the tending of ponds, small animals and fruit trees. In rural areas here, where most people are rice farmers, many households have a small fishpond. Tu Giay started a big national movement to put a piggery and chicken coop next to the pond in a way that ensures that their feces are washed into the pond to feed the fish. On the edge of the pond, people were taught to plant fruit trees, thus completing the scheme of a sustainable household level food system. The system continues to be very popular nationwide.

Tu Giay once took me personally out on a field trip to show me the achievements of his system. I was impressed to say the least, by his patience and perseverance, and his care for the people. You can perhaps guess what his biggest uphill battle was in this endeavour. This was convincing people that they should not build their own latrines on top of the pond.... In times of peace Tu Giay founded the Vietnamese National Institute of Nutrition and remained its director for twelve years. He is a nationally revered person

My first meeting with Tu Giay left a profound and lasting impression. He greeted me as if I were a long standing friend, even though Australia, from where I had come to visit him, had been at war with Vietnam for some years. Later he was our house-guest in Melbourne reminiscing about childhood in Asia with my elderly Chinese mother-in-law. He bore only respect and affection, no malice. I see his face and bearing, gentle, pensive, faintly smiling. He is an enduring presence and force for good. He made a lasting impression on many people who spent time with him.

Tu Giay received many awards, prizes and tributes awards at home and abroad. But his life, work and place in history need to be constantly remembered, understood and followed. In his 68th year in 1989 he was named on behalf of the nation of Vietnam, 'The Peoples' Doctor'.

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## Status

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