

Land Used for the Construction of Golf Courses and Related Concerns in Vietnam

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Key words: land used, golf course, construction of golf courses, Vietnam

SUMMARY

In recent years, golf courses have been constructed everywhere in Vietnam. The number of golf courses has jumped very fast. Up to now, 144 golf course projects have been approved or have been considered for approval; these projects will use an area of about 44,000 ha of land. It is remarkable that golf course construction is taking such a large area of land, especially fertilized agriculture land.

The development of golf courses without planning, good management practice and socio-economic and environmental considerations will increase pressure on limited land resources and environmental problems in Vietnam.

Based on the analysis of current development of golf courses in Vietnam, its potential effects on natural and socio-economic environments, the author addresses some concerns and issues related to golf course development and management in Vietnam.

SUMMARY in Vietnamese

Sử dụng đất cho xây dựng sân golf và những vấn đề đặt ra ở Việt Nam

Những năm gần đây, dự án xây dựng sân golf mọc lên khắp nơi trên cả nước; số các dự án sân golf đã tăng lên một cách nhanh chóng. Cho đến nay, đã có 144 dự án sân golf đã được cấp phép hoặc có chủ trương cho phép nghiên cứu thực hiện, sẽ chiếm dụng hơn 44.000 ha đất. Điều đáng nói là những dự án sân golf đã lấn chiếm nhiều vùng đất lúa màu mỡ hoặc vùng chăn nuôi trồng trọt năng suất cao.

Việc sử dụng đất cho xây dựng sân golf một cách tràn lan không có kế hoạch, không tính đến hiệu quả lâu dài về kinh tế-môi trường-xã hội, không được quản lý đã làm tăng thêm sức ép lên tài nguyên đất vốn đã hạn hẹp của nước ta, làm căng thẳng thêm những vấn đề về môi trường tự nhiên và kinh tế - xã hội.

Trên cơ sở phân tích thực trạng sử dụng đất cho các dự án xây dựng sân golf hiện nay ở Việt Nam, những ảnh hưởng nó có thể gây ra cho môi trường tự nhiên – kinh tế - xã hội, tác giả nêu lên một số vấn đề cần lưu ý trong việc phát triển và quản lý các dự án sân golf ở Việt Nam nhằm đảm bảo sử dụng hợp lý và bảo vệ tài nguyên đất phục vụ mục tiêu phát triển kinh tế bền vững của Việt Nam.

Land Used for the Construction of Golf Courses and Related Concerns in Vietnam

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1. INTRODUCTION

In recent years, golf course projects have developed rapidly and widely in Vietnam. In only two years (from 1 July 2006 to 4 June 2008), the number of golf courses increased by 106, i.e. 13 times higher than 16 years before. Up to now, about 140 golf course projects have been approved or have been considered for approval; these projects will use an area of about 44,000 ha of land. It is remarkable that golf course construction is taking such a large area of land, especially fertilized agriculture land.

Golf course projects are something new in Vietnam, and the rapid development of this type of project is facing a lot of oppositions from public opinion. It is queried why golf course projects develop so rapidly? What benefits do golf course projects bring? To whom are golf course projects a benefit? Whether or not short-term and long-term impacts of golf course projects are considered? How golf course projects are planned, approved and managed? How golf course projects can be developed sustainably? These are the concerns that the author wants to address in this article, with a hope to contribute a voice for a better choice on golf course development in Vietnam.

2. CURRENT STATUS OF GOLF COURSE DEVELOPMENT IN VIETNAM

2.1 Land used for the construction of golf courses

The rapid development of golf courses is taking a very large area of land, encroaching agricultural land, especially land used for rice cultivation. According to statistics from the Ministry of Natural Resource and Environment, currently Vietnam has licensed or is considering to license for 140 golf course projects, as well as real estate and associated golf course projects in 38 provinces/cities nationwide. The 76 implemented/implementing projects have occupied 23,832 ha of land, of which, 9,847 ha is agriculture land, including 1,847 ha land used for rice cultivation. (Quang Minh, 2009). Agriculture land and land for rice cultivation are in danger of further loss if these projects take place in lowland provinces such as Hanoi, Hung Yen, Ha Nam, Ho Chi Minh City, Long An, Hau Giang, ...

At the “Golf Courses and Green Construction” conference, which was organised by Vietnam Construction Association in Hanoi on 6 May 2009, the issue of land loss from golf course construction was presented by many representatives: “Golf is a land-costly game... On average, every golf course takes about 203 ha of land”. In fact, each golf course uses from minimum 100ha, up to several hundred hectares of land. Many golf courses have to take cultivation land from 3,000 to 10,000 farmers, or takes all the cultivation land of one commune. The Van Tri golf course in Dong Anh, Hanoi uses 128 ha, of which 93 ha is

agriculture land, causing land loss for 600 households. It is noticeable that golf courses in Vietnam are not placed on coastal sand hills or exhausted hills, but on areas having adequate water, good soil and nice landscape (Hoang Van, 2009).

However, golf course projects are not only for pure golf construction. According to Prof. Dr. Ton Gia Huyen from the Vietnam Land Science Association, land used for pure golf construction takes only a small proportion in golf course projects. Among the 76 implemented/ implementing projects, only 13 of them are pure golf course projects, the rest are real estate and associated golf course projects. Many projects use only 30% of the land for the actual golf course, the rest is used for a combination of trade, real-estate and tourism services. In fact, business within golf courses itself doesn't bring much profit, however payment for the land used for golf course is many times lower than payment for land used for housing, commercial centre, tourism facilities etc. As such, investors sometimes take advantage of this loophole, applying for golf courses projects and using the land for other purpose to quickly reclaim investment capital and make a lot of money, without caring whether the golf course project will be realised or not (Quang Minh, 2009). An example of this is Hoa-Viet golf course project in district 9, Ho Chi Minh City. From 1994 to 2007, the total turnover of the company was 1,000 billion VND, however the total loss was more than 17 billion VND (from 1997 to 2005, the company was continuously running at a loss). The payment for tax was taken from financial activities. After that, the investor asked permission to change the land use for the construction of a village for rent and sell, and got the permission to use 38% of the land for real estate business from Ho Chi Minh City People's Committee. Profit of the project was mainly from trading real estate and selling golf course member cards. The fee from golf players (100 – 250 USD/day/time) cannot reclaim the invested capital (Báo điện tử VN Media, 2009)

Similar with other projects, golf course projects have to compensate for clearing the ground. However, many golf course projects separate farmers from their land with a reduced price. An example is the golf course-sport-housing complex project in An Phu commune, district 2, Ho Chi Minh City. 200 out of the 312 households accepted the compensation price at 150,000 VND/1m² agriculture land, the rest did not accept because they thought the price was too low compared with the potential of the land; meanwhile, real estate projects compensated 500,000 – 1,000,000 VND/1m² agriculture land in the same location (Xaluan.com, 2009). This is why the ground clearing process has taken so long.

2.2 Impacts of golf course constructions on natural and socio-economic environments.

2.2.1 Positive impacts

Development and operation of golf course projects in a sound manner can bring economic benefits and contribute to community development.

Reclamation of fallow and/or arid lands for the development of golf courses will contribute to the change of natural landscape and living environment, create an attractive form of tourism – the sport of golf, meeting this increasing trend in modern society; at the same time it creates job opportunities for local people and surrounding areas, contributing to provincial and local budgets.

The Long Thanh golf course in Dong Nai province is an example of this. The golf course was built in 2001 from flooded fallow and arid lands, where farmers can only cultivate one crop a

year uncertainly and the yield was low. Income of farmers was low and unstable. Now, this area has changed with green grass and trees, fresh air, a modern urban area and helps to meet the increasing needs of the modern society. In 9 years of operation, the project has created jobs for more than 2,000 local and surrounding workers with an average income of 2.5 million VND (about \$130USD)/person/month. Workers have been trained to suitably perform the work duties. Contribution to the state budget was more than 200 billion VND and it is one of the largest contributors to the Dong Nai budget” (Duy Phong, 2009a).

However, the positive impacts of golf course projects are not significant and not equal for all of society. Profit from golf course projects typically goes to real estate and tourism investors, and recreational benefits from golf course projects go to high income groups and foreigners. Local people have no/little access to the benefits from golf course projects. If the cost of land value, farmers’ jobs and environmental pollution from golf course projects is included in a cost-benefit analysis, then golf course projects do not bring much to community socio-economic development. “By November 2008, only 13 of 144 golf course projects have been operating, the sources of revenue for these golf course projects were mainly from real estate business” (Cong Thang, 2008). The Van Tri golf course in the Dong Anh district of Hanoi is an example of this. The course has a total investment of US\$14.5 million, and covers an area of 128ha including 93ha of rice growing land used for two crops. Building this golf course has seen 600 households lose their land. However, from June 2003 to December 2007, Van Tri golf course contributed only VND20.8 billion to the state budget (VND4 billion per year on average). Each year, thousands of people lose their jobs while the state budget has collected little revenue from the construction of golf courses (V.N.A, 2008).

2.1.2 Negative impacts

The current rapid development of golf courses without sufficient planning and good management is causing adverse impacts on natural and socio-economic environments.

- The immediate impacts from using agriculture land for the construction of golf courses are the decrease of land for agricultural production and the unemployment of many farmers.

As previously mentioned, in order to have 23,832 ha of land for the 76 implemented/implementing golf course projects, 9,487 ha agriculture land, of which 1,847 ha was land for cultivation of rice, was taken. To build a 18-hole golf course, more than 100 ha of agricultural land is needed. This means that around 1,000 farmers will lose their jobs and thousands of farmers have to leave their villages for the cities to earn their living. However, granting investment license for building golf courses is up to the local authorities. In fact, for individual purposes and to attract investment, when some enterprises plan to build a golf course, localities have strongly supported them, making the number of golf courses jump remarkably (V.N.A, 2008). This status leads to the lack of land for agricultural production, the partition of fields, the change of local agricultural structure and the disturbance of local life and production. Compensation and resettlement for these projects are not sufficient, leading to the emergence of some social problems in localities. An example is the golf course project in Lam Son, Hoa Binh province: when the locality gave up land for the golf course, farmers lost their jobs and had nothing to do. Among the thousand labourers, only 90 youths were selected to train to do rattan (similar to bamboo) handicraft work; however, rattan

handicraft did not provide stable income and so it was abandoned. Some youths were selected to work for the golf course business with 40,000 VND/person/day, but very soon they lost these jobs due to no suitable positions. Other concerns with Lam Son golf course include the pollution of drinking-water from pesticide, the obstruction of direct routes for farmers going to work and students going, and numerous students giving up school (Le Vu, 2009).

- The delayed implementation of golf course projects wastes land and causes disturbance for the farmer's life.

Many golf course projects in Ho Chi Minh City exist only on paper. Apart from wasting land resources, these projects cause many difficulties for farmers. An example is the golf course, residential and recreational park project in Hiep Binh Phuoc, Thu Duc district: it has been approved for 9 years but still has not been finished. Construction of the golf course began in 2004, however the plan was adjusted and investors were changed from time to time... Hundreds of hectares of land were wasted and thousands households were disturbed. In the project area, local residents are not allowed to repair and update their houses, running-water was stopped and people have to use well-water or rain-water (Thai Thien – Doan Quy, 2009).

- Potential adverse impacts on environment due to the use of chemicals for golf courses.

Research worldwide show that, every year, an 18-hole course use about 1.5 tons of chemicals (3 time higher than the chemical used for the same area of agriculture land), including silicic acid, Al_2O_3 and Fe oxides (a cancer-causing substance). The catalyst used to harden soil for consolidation of bottom and reinforcement of the wall of man-made lakes in golf courses contains acrylamide, which is extremely toxic for living things including human-beings. All these chemical substances can then be soaked into the land, go into ground water, surface water and surrounding environment, cause environmental pollution, contaminate water users and agricultural products and disorder the function of their central nervous system. Apart from that, chemicals when sprayed in grass can be partially dispersed into the air causing air pollution.

According to Mr. Pham Manh Thong from the Department of Environment Police, in Vietnam, environmental crimes associated with golf courses include: ignoring, or incomplete implementation, of environmental protection activities/environmental impact mitigation measures listed in the approved Environmental Impact Assessment reports; the failure to collect harmful wastes such as chemical and pesticide packagings, and damaged barriers; the discharge of contaminated water into water bodies without treatment, etc. (Quang Duan, 2009).

- Intensive consumption of water resource

Normally, golf courses are constructed in places where water can be drained easily. According to MSc. Dang Van Dam from the Vietnam Environment Association, golf courses require large volumes of water to keep their grass healthy, which puts a heavy strain on water resources. An 18-hole golf course uses 5,000 cubic meters of water each day, which is enough for 2,000 families' domestic use (Bao Anh, 2009). On average, fresh water needed for the

irrigation is about 60m³/ha (6 l/m²). For this purpose, high capacity water pumps operate all day and night, lowering ground water level in surrounding areas and contributing to the dispersion of harmful chemicals into underground water streams.

- The impact of golf courses on natural environment and landscape.

Construction of golf courses in flat land encroach upon agriculture land, however in sloping land, the clearance of vegetation for golf course construction may cause soil erosion, landslide, and changes in natural slope and underground water level. Consequently, soil structure becomes weak and may easily be deteriorated from rain, flood and earthquake. Mr. Pham Manh Thong from the Department of Environment Police said deforestation due to golf course construction may increase harmful flooding. The Dong Tam golf course project in northern Hoa Binh Province has been temporarily shut down, according to Mr. Thong, after it destroyed three hectares of protective forests and violated other environmental protection regulations (Bao Anh, 2009).

- The creation of social inequality

Currently, the number of golfers in Vietnam is about 5,000, of which 2,000 are permanent golfers. Vietnamese golfers make up about 10% of these numbers (Minh Hân, 2009). The use of nearly 50,000 ha of land for about 5,000 golfers is extravagant and exceeding the practical needs. Creation of social inequality is a main reason for opposition to golf course construction: poor farmers losing agriculture land for the entertainment of rich golfers.

- Adverse impacts remain from weaknesses in planning and environmental management.

The licensing of golf course projects without strict project appraisal procedures, environmental impact assessment procedures, and the lack of project management /environmental management measures will facilitate environmental crimes and cause adverse impacts on the environment.

In practice, golf course constructions in Vietnam have caused adverse impacts on the environment, however, environmental planning and management are neglected. Currently, most of the operating golf course projects discharge waste water directly into agricultural irrigation systems and the surrounding environment without treatment, causing serious environmental pollution. Examples include Doi Cu golf course (Da Lat, Lam Dong), and Phan Thiet golf course (Binh Thuan). According to MSc. Dang Van Dam, Vietnam Environment Association, “due to the limitation of professional knowledge and the lack of environmental management legislation, local environmental management offices cannot implement the monitoring of environmental pollution and environmental impact mitigation measures in golf course projects; on the other hand, environmental awareness of investors is low and they do not care about applying environmental protection measures in golf course projects; thus, environmental pollution is not possible to control” (Duy Phong, 2009b)

In general, potential adverse impacts of golf course construction on socio-economic environment are long-term and unforeseeable. However, the level of these impacts is largely dependent on level of management, application of technology and scientific knowledge to maintenance and exploitation of golf courses, especially in order to maintain the grass and reuse the waste water from golf courses.

3. CURRENT STATUS OF GOLF COURSE PLANNING AND MANAGEMENT IN VIETNAM

3.1 Current status of golf course development planning

There is currently no golf course planning in any sector planning. According to Prof. Ton Gia Huyen, at present the development of golf course projects is mainly unplanned, but rather instigated by “initiatives” of investors. Amongst the 140 golf course projects which have been approved or have been considered for approval, only 41 projects (7,095 ha of land) were placed in land use planning. The rest were not placed in land use planning but rather zoned for sport and entertainment activities, tourism, landscapes (Duy Phong, 2009c). The largest number of golf courses is concentrated in Nam Trung Bo with 27 golf courses, followed by: Bac Bo plain with 25 golf courses; provinces in the North mountainous region with 11 golf courses; Tay Nguyen with 11 golf courses; and Tay Nam Bo with 6 golf courses. Hanoi and Ho Chi Minh City have 18 golf courses each. However, no one can answer how many golf courses are enough; no one is managing the development of golf courses, to carry out planning and establish technical criteria for golf course development; golf courses are not listed in the planning of Ministry of Construction, Ministry of Natural Resources and Environment and Ministry of Culture, Sports and Tourism, even Ministry of Agriculture and Rural Development, therefore, the introduction of land for golf courses to investors is random (Minh Hanh, 2009).

According to Prof. Ton Ga Huyen, the problem for golf course development in Vietnam currently is the lack of a master plan for those projects. Provincial authorities have assignment to license the golf course projects, and thus, they should have to adjust their land use planning; however in practice, they do not adjust or cannot adjust the land use planning. On the other hand, based on the process of golf course project implementation in the last years, many of the 144 golf course projects will not be implemented before the year 2050 (Ngoc Ly, 2009).

The construction of golf courses without planning will cause land use conflict between sectors, disturbance in agricultural production, environmental pollution and many social problems.

3.2 Current state of golf course management

Previously, golf course projects were listed in Group A projects and the project appraisal was carried out by the Government.

Currently in Vietnam, golf course projects are not listed in the group of restricted projects or sectoral planning projects and according to the Law on Investment, the appraisal of golf course projects is carried out by provincial presidents. This loophole spurs the investors applying for golf course projects to chase the real estate purpose for their business and enormous profits; and the local authorities, for individual purposes and to attract investment, have strongly supported them, making the number of golf courses jump remarkably. After 3 years of administrative decentralization, the number of golf course projects had increased 3

times. This abnormal development and its associated environmental and socio-economic concerns have strongly raised objections from scientists and the public.

In this context, in April 2008, the Prime Minister assigned Ministry of Planning and Investment to act as a focal point to collaborate with other governmental/provincial offices to review golf course planning and assess the effectiveness of operating golf course projects. At the two national assembly meetings, golf course concerns were presented as an urgent matter; representatives from all around the nation reflected the boom and nature of golf course development. At the meeting in July 2009, the Minister of Ministry of Natural Resources and Environment and the Minister of Ministry of Planning and Investment recognised that after the administrative decentralization, a master plan for golf course development has not yet been established, and that some localities use land for tourism, sport and recreational activities and parks to construct golf courses. Therefore, the Ministries ordered a stop on golf course projects for a review. As a result, 50 golf course projects nation-wide, of which 10 golf course projects are in Hanoi, will be stopped; proposed golf course projects were not issued land permission; and not yet implemented yet (or partially implemented) golf course projects will become reclaimed land. On the other hand, an overall master plan for golf course development nation-wide will be established toward maximum restriction of golf course construction in the plain areas, and allow for construction of golf courses in hilly and mountainous areas (Xa luan, 2009).

The People's Committee of Hanoi has sent official document No. 107/BC-UBND to report on golf course development in the Capital and proposed to the Prime Minister to stop 10 golf course projects for other land use purposes (Can Cuong, 2009). According to Hanoi People Committee, at this time, no governmental regulation on criteria and planning for golf course projects are available, so golf course projects are reviewed and adjusted according to the following principles: 1) appraisal and approval of projects must pay strict attention to land requirements, technology, overall master planning, environmental impacts, capacity and experience of investors, and responsibilities for farmers who lose land for golf construction; 2) stop the construction of golf courses in areas taking a lot of land for rice cultivation, areas with dense population, areas with difficulties in job creation for local farmers, areas with environmental sensitivities, etc. (Can Cuong, 2009). Together with Hanoi, other provinces are in the process of review and adjustment of golf course projects.

What will be done next?

4. DISCUSSIONS

In this section, some issues for development of golf courses are discussed. It is proposed that further development of golf courses should take into account the review and adjustment of existing golf course projects, the existing and future needs, the availability of natural resources (particularly land resources), the sensitivity of environment, the readiness of socio-economic conditions, the alternatives of golf course development, and the issue of sustainability.

As a result of review and adjustment, 50 golf course projects will be stopped, and the development of golf courses will take place in hilly and mountainous areas. Care should be taken to remedy associated problems with golf course construction. An overall master plan of golf course development should be established soon. It is proposed that legal appraisal procedures and environmental impact assessment guidelines for golf course projects should be soon established properly to use as instruments for managing these type of projects. It is questioned whether golf course development should be developed intensively in hilly and mountainous areas, where the danger of landslide and sweeping flood is already at alarming levels, and at a time when the nation is establishing and implementing a strategic response to climate change which will have a strong impacts in Vietnam?

As mentioned above, only a small number of typically wealthy people benefit from the development/use of golf courses. It is proposed that the existing and future needs for golf course construction should take into account the purposes of golf course development, i.e. for economic income and public benefit. Thus, besides the construction of golf courses to attract tourists, it is necessary to construct popular golf courses for public entertainment purposes, so that the general public is able to access and enjoy them; additionally, programmes to socialise golf activities should be promoted.

Vietnam is a populous country. Population survey in April 2009 shows that the population of the country is about 85.8 millions people. Total natural area of Vietnam is 331.212 km², of which, hill and mountainous area makes up $\frac{3}{4}$ of the area. Average agriculture land per capita in Vietnam is very low, (about 1108m²/pers.), and is gradually being reduced. Agriculture land is at threat of being lost from urban expansion, industrial expansion, large hydroelectricity plants, and golf course development. The impacts from these land losses are cumulated, causing a very high pressure on agricultural production. However, agriculture land in Vietnam has played an extremely important role to the recovery of the economy after wars, to support the development of other sectors, and to sustain the peaceful living of so many farmers. It is proposed that the use of land for golf courses should take into account the availability of agriculture land for food security, the land use conflict between sectors, the strategic compensation for farmers to ensure the stability of their living (including housing, jobs, job training, production and product marketing, etc.).

Golf courses should be restricted in plain areas, however the development of golf courses in hill and mountainous areas also faced with some conflicts such as nature conservation, protection of watershed, land use for the development/production of ethnic communities, and the protection of land with environmental sensitives and risks.

The other concern of golf course development in Vietnam is the readiness of socio-economic conditions. Vietnam has a thousand-year tradition on rice-paddy agriculture and the agriculture is developed and more stable now. It is proposed that any new developments should be prepared carefully and systematically for job creation, career and professional trainings, benefit sharing, environmental education on golf courses for related groups, etc. The rapid development of golf courses without being prepared for these factors, and while lacking experience, is not stable and is dangerous.

Alternatives in golf course development should be considered. It was a fact that golf course development did not bring much economic benefits in the past, should we still grow our

hope? For the entertainment purpose, only a few people in Vietnam interested in playing golf. It is supposed that what we urgent need now is green and open spaces, fresh air for rest and some popular sport activities among the capital/cities, and the development of parks, green belts is reasonable. The golf industry should be planned in the long-term development.

Finally, the issue on sustainable golf courses should be analysed and applied to golf course development and management in Vietnam in order to ensure a good playing quality of the golf course, ensure benefit sharing and responsibility with nature conservation and natural environment among the society/communities.

CONCLUSIONS AND RECOMMENDATIONS

The rapid development of golf courses in Vietnam is related to real estate purpose and resulting from gaps in management. This development is unstable due to many related concerns. In order to deal with the current situation, the existing golf course projects have been screened based on some provisional criteria to stop some projects which are a serious concern to agricultural land loss, and environmental and socio-economic issues. However, management gaps in golf course projects need to be covered soon with the adjustment of policy on taxes, the issue of provisions to stop the use of golf course land for real estate and other purpose, etc. The next step for responding to the current status is the planning and management works.

Further development of golf courses should take into account the review and adjustment of existing golf course projects, the existing and future needs, the availability of natural resources (particularly land resources), the sensitivity of environment, the readiness of socio-economic conditions, the alternatives of golf course development, and the issue of sustainability.

Golf course development will be restricted within the plain areas due to limited land for paddy rice; however it should be carefully considered and managed if developed in hilly and mountainous areas, with regard to environmental sensitivity and socio-economic conditions of ethnic communities.

Planning for the golf course development in the next step should consider the urgent need of green and open spaces, fresh air for rest and some popular sport activities in the capital/cities.

Golf courses are a new development in Vietnam, thus, planning for golf course development should be carried out step by step, taking into account the review and adjustment of existing golf course projects, the existing and future needs, the availability of natural resources, particularly agricultural land resource, the sensitiveness of environment, the readiness of socio-economic conditions, and learning from the experiences of other countries. Legal documents on project appraisal and project management should be issued to provide a framework for golf course development and management.

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BIOGRAPHICAL NOTES

The author currently is a member of staff at the Institute of Geography and my work involves carrying out scientific research and surveys on natural conditions and resources as well as socio-economic conditions to support local communities in planning for sustainable use of natural resources and socio-economic developments. In 1994, I completed a Master of Human Ecology in Vrije Universiteit Brussel (VUB), Belgium - a two-year international program of interdisciplinary environmental studies and after this, I worked for three years on the EC-funded project "Capacity building for Environmental Management in Vietnam", which was implemented in cooperation between the VUB (Belgium) and the Institute of Geography (Vietnam). My interest is working in environmental sector and collaboration with environmental organisations.

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