Agent Orange in front of social sciences

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Why do disciplines of social sciences hold an important place in the framework of the Conference? It is because they are absolutely necessary for organizing effective actions against the damage caused by Agent Orange. Consequences of defoliation on environment require a new laying-out of the geographical, agronomical, economic and social space, which supposes preliminary scientific researches. Dioxin's effects on human health and particularly on the frequency of serious congenital handicaps require adaptations of the health and educational system; they also make urgent psychical cares for which the essential remains to be done, including preliminary researches and experimentations on the spot[1].

We know that a major catastrophe due to defoliants still continues in the field of health. Yet the other consequence of defoliation must be underlined without respite: it has not only brought about a massively deleterious action on human beings and the fauna on account of dioxin's high toxicity; it has also devastated on a long-term basis the vegetation of a notable part of Vietnamese territory south of the 17th parallel. Globally, when we envisage the actions that can be taken against the catastrophes caused by Agent Orange, we see that human sciences should make an indispensable contribution on many fronts: medical and social care for handicapped, general education and vocational training, struggle against grinding poverty and eradication of malnutrition, the part that will come to the small peasantry and the integration of ethnic minorities, even public policies of agro-forest redevelopment.

I surely leave my Vietnamese colleagues to take charge of presenting their own works and I will pay attention to the contributions coming from foreign researchers. Except in exceptional circumstances, I will enumerate neither authors nor laboratories, but rather pick out some themes marking out the path of social sciences in a general strategy of peaceful struggle for Agent Orange victims.

To get under way our exchange of views, I will tackle the questions according to a variety of disciplinary viewpoints.

History, geography and laying-out of space

Let's leave on one side the works devoted, on a general plane, to the American war in Vietnam. Yet we have at our disposal the historical works regarding our purpose more precisely, in particular on the theme of chemical warfare and the strategies aiming at destroying the other side's environment[2]. Systematic investigations have been published about different stages leading to defoliations during the American war. As US official archives become accessible, scientific studies of defoliants are more and more documented. Thus, the exploitation of American declassified military documents has permitted to draw up a very detailed map of affected zones[3]. Such a work allows to statistically establish the links between the geography of defoliations and that of the

[1] I leave out the disciplines that deal with psychism, since Bernard Doray presents a paper specially devoted to them.

[2] For example, with an article of a researcher from the INRA (National Institute of Agronomical Research, Paris), Frédéric Suffert, L'épidémie végétale, nouvelle discipline de guerre? Lumière sur le bioterrorisme agricole..., *Le Courrier de l'environnement*, No 47, October 2002.

[3] Especially with the article of Jeanne Mager Stellmann and others, *The extent and pattern of usage of Agent Orange and other herbicides in Vietnam*, Nature, 422 (7 April 2003), 681-687.

prevalence of troubles observed in life transmission.

Moreover, the studies analyzing, for after-war years, each stage of the economic, social, medical and diplomatic charge taken of the damage caused by defoliants would shed light on the path with a view to a new impulse; in fact, the legal proceedings started by victims against the firms producing Agent Orange must be accompanied with an immediate improvement in their lot. In this respect, economic history already includes the analysis of processes that have accentuated, after the war, the deforestation, the massive extension of industrial plants and the migrations towards highlands. Now, such mutations closely interfere with the lot of the populations most affected by Agent Orange and other defoliants. This retrospective examination has favoured the changes of course, particularly towards reforestation. History joins here geography and political sciences when it is the matter of laying out the space and building a lasting development. Let's refer to pluridisciplinary researches aiming at the agro-forest exploitation of the Central Highlands; they even open anthropological prospects about ethnic minorities that have long settled in these regions. Nevertheless, turned to the processes of economic exploitation, they have not laid stress right away on consequences of the chemical war for native people affected by defoliants.

The redevelopment of the space subsequently to defoliations meets here with a more general question in areas where Vietnam's impetuous development leads to new agro-forest policies and the extension of industrial plants. This process entails a gap between the traditional know-how of autochthonous populations and the competences necessary for the success of new productions; as an indirect consequence, massive migrations destabilize the groups whose presence is ancestral. On this theme, a whole of particularly critical analyses will be found in Canadian, French and Vietnamese contributions to a programme of scientific cooperation implemented from 2001 to 2002; results have been published under the title *Agriculture, environment and societies on the Highlands of Vietnam*[4]. In the middle of these turbulences, many ethnic minorities gravely afflicted with Agent Orange have difficulties finding their place among beneficiaries of the general development.

Coffee is doubtless the most studied example of industrial plant[5]. Vietnam was the 31st largest coffee producer in the world in 1987, the 4th in 1998-1999, and now among the front runners. Vietnamese coffee production often takes the place of forest on highlands, in regions where lived hunters-gatherers and slash-and-burn farmers. The majority of this production is concentrated in the province of Dak Lak, that French colonizers considered as a region of "savages", likely to appeal to ethnologists. More generally, the "virgin" lands energized by economic modernization often are the spaces stripped by defoliants and densely populated by "ethnic minorities" until the American war. We understand why anthropology is involved in the study of these questions beside geography, economics and political sciences.

The geography of defoliations has formed the subject of numerous surveys. Likewise, localized studies have prepared development projects (promoted by Vietnamese authorities, foreign countries and/or NGOs). Human geography gets involved in it so as to do research into

[4] Texts collected together by Rodolphe De Koninck, Frédéric Durand, Hélène Guétat and Nguyen Huu Duc. Work published in Toulouse by the Éditions Arkuiris and in Bangkok by IRASEC in 2005.

[5] A synthesis and a rather recent bibliography is found in Frédéric Fortunel, Le café au Vietnam. *De la colonisation à l'essor d'un grand producteur mondial*, Paris & Montréal, L'Harmatttan, 2000.

environment and populations. We see here how the scale of the district allows various scientific disciplines to join together in dealing with Agent Orange problems[6]. I find a first-rate example thereof with the study that has been made on the spot for ten years by Hatfield Consultants Ltd. (Vancouver) in A Luoi district, terribly devastated by defoliants[7]. The theme is the repercussion in the long term of Agent Orange. Dioxin continues to contaminate the soil and foodstuffs in this district, where the American army had saturated with defoliants the neighbourhood of their bases in the sector of A So[8]. The zones holding the highest dioxin content are precisely the sites of those bases. Human geography is directly concerned by the dioxin concentration observed in food (tissues of fish and ducks), in blood and breast milk. Correlatively, an investigation on the population's health and nutrition has been carried out in the valley of A Luoi, in collaboration with the Department of Health and Epidemiology (University of British Columbia, Canada). This geographical study also includes a transfer of technology to Vietnamese experts in order to evaluate deleterious effects on environment and the actions aiming at attenuating those effects.

Deforestation of Vietnam, whether it is due to defoliants or whether to farming activities, forms the subject of in-depth studies that also enter our perspective[9]. We refer here to the domain of economic development in the framework of the rapid development that is transforming the country.

Economics

Among the research works that analyze the policies of exploiting the areas affected by defoliation can be found a good deal of economic studies on the development of different industrial plants (coffee tree, rubber tree, tea plant, pepper plant, etc...) Let us quote, for example, the research works coming from a French university organism, the IRD (French Research Institute for Development). At the level of values that inspire these works, the concern about the lasting development according to the renewal of natural resources and the imperatives of market goes hand in hand with the care to be given to populations, above all autochthons, among whom are groups whose ecosystem has been ravaged by defoliants. We meet here deforestation problems and those of land question. In fact, migratory movements, the distribution of lands and the dynamic of market have, in many places, put most autochthons on the fringe of economic expansion. These native people have settled for a long time in wooded zones south of the 17th parallel that is worst hit by ecocide and dioxin poisoning.

[6] The district of A Luoi (province of Thua Thien-Hue), on the Central Highlands, is situated a little south of the 17th parallel. 76% of its area are inhabited ethnic minorities. It was traversed by Ho Chi Minh trail. American troops had set up there during a time large airbases. Consequently, defoliations have been particularly dense in all this zone, even annihilating the tropical primitive forest.
To take care of this very poor population,. sorely afflicted with the war and traditionally marginal on the territory of Vietnam, CEDRATE focuses its on-spot investigation on this district.

[7] This investigation has been conducted in collaboration with a Vietnamese organism, the 10-88 Committee. See: Hatfield Consultants & 10-88 Committee, *Preliminary to Spraying of Agent Orange Herbicide during the Vietnam War*, West Vancouver, Hatfield Consultants, 1988, two volumes.

[8] Previously named A Sau.

[9] We can get an idea, for example, through a rather recent article of Yann Roche & Rodolphe De Koninck, *Les enjeux de la déforestation in Vietnam*.

In families having children whose development has been hindered by dioxin, the cumulative effect of poverty factors manifests itself acutely:

- Simultaneous presence of handicaps in parents (on account of the wars) and in children (because of dioxin),
- Imbalance between the capacity for work and the number of mouths to feed,
- Additional medical costs,
- Specific cultural difficulties to get out of an auto sufficiency system to bank on the system of Vietnamese family micro-realizations.

On these different points, I will call up Julie Yoder's work, *Training and Employment of People with Disabilities: Vietnam 2001*[10], this authoress only refers incidentally here to handicaps due to dioxin, but the processes she analyzes about handicapped in general present themselves in a particularly overpowering way among families of dioxin victims.

Microeconomic research has also paid attention to each family afflicted with dioxin. A particularly well-documented investigation has been implemented in 2001 and published by an Australian researcher, Michael G. Palmer[11]. This scholar shows that the level of assistance lent to victims remains much inferior to an adequate compensation, but he estimates that a high increase of rates would disrupt the social cohesion in a country where a great part of population suffer from after-effects of the war and 90% of country people are poor. On the other hand, he recommends for victims a non-monetary support by exonerating them from medical expenses.

Public health

Let's begin by distinguishing the research works that envisage the redevelopment of zones whose fauna and flora have been affected by defoliants from those directly concerning deleterious effects of dioxin on human health. The national recruitment of soldiers and the migrations subsequent to the war show in all Vietnam people poisoned by dioxin. In this field, two sections of economic research must be taken into consideration: at economic level, investments and current expenses devoted to the cares for victims (allocations, health and specialized establishments, financial accessibility of the health system...); at microeconomic level, the weigh of handicaps imputable to dioxin and the family budgets, with the prospect of possible family micro realizations (loans, training, provision of tools such as a sewing machine...). Actions are taken in this domain by local authorities, foreign countries, NGOs and associations, but a more systematic investigation would be indispensable to build necessary public policies.

In research works, in the domain of public health, on dioxin, statistical correlations are first established between the localization of defoliations and that of the prevalence of certain pathologies; in each case, we use the reference to exposures to dioxin suffered by some person or other, to reveal the troubles affecting the very person and the teratogenic effects on

[10] Bangkok, International Labour Organization, 2004 (Ability Asia Country Studies Series).

[12] The legacy of Agent Orange: empirical evidence from Central Vietnam, Social Science & Medicine, 60 I2005), 1061-1070. This research has been carried out in collaboration with the University of Economics of Ho Chi Minh-city. The specimen was constituted by 30 households affected by dioxin and 30 non-affected ones, inhabiting the province of Quang Tri.

children[12].The complexity of technically admissible methodologies in the debate within the international scientific community is very demanding: in most of the time, we cannot consider as rigorously demonstrative the arguments based on detailed facts and figures gathered in the framework of humanitarian actions for the imputation of individual troubles to dioxin and for the processes supposed at stake (genetics, nutrition, etc...)[13]. The collaboration between social sciences and medicine remains inescapable.

An essential point is the current impossibility to distinguish in each case the troubles resulting from the action (very polymorphous) of dioxin from other pathologies of development. For the action, it is inevitable to cast the net wide with programmes contemplating the whole of congenital handicaps, for example to multiply health and specialized training establishments[14]. As available medical means (for both diagnosis and therapy) are hardly suitable to troubles due to dioxin, it would be logical to place the care to be given to affected children in the more general context of public policies and initiatives of the civil society on behalf of handicapped children and adults. In all these questions, the rigorous recourse to disciplines of social sciences would be of great help. For instance, for mechanisms instituted in favour of people afflicted with congenital handicaps, the comparison between Vietnam and some industrialized country or other would have to give an indication in order to work out applicable adequate measures according to Vietnam's present economic development.

As for the effective situation of handicapped, some global studies already give us very meaningful indications. Thus, an investigation conducted in 1999 by Thomas T. Kane[15]brought together a good deal of epidemiological, administrative, social and medical data on handicapped. The author came to detailed recommendations. At the time, a government edict on handicapped prescribed a vigorous policy on behalf of these people. But *Le Courrier du Vietnam* (No. 10, January 2006), sums up a recent declaration of the prime minister on results reached:

Seven years after the publication of the edict on handicapped, juridical regulations for the five million people are sufficient, but they are not well applied in reality. The rate of handicapped schoolchildren in schools remain low. These people still meet with many difficulties in the use of public services.

Anthropology, sociology and demography

It has existed for a long time Vietnamese scientific institutions working on ethnic minorities, popular religiosity, traditional pharmacopoeia...Yet in districts worst hit by Agent Orange, the catastrophic pressure brought to bear on health and environment has broken the ecosystems where ethnic minorities had worked out ancestral modes of life adapted to tropical forest. From that followed a massive uprooting; radical changes in economic

[12] For a critical analyzis of the question, see: John Constable, *The Early Years of Vietnamese and American Agent Orange Health Research: 1965 to 1983*, Harvard Medical School, Massachusetts General Hospital, February 2005.

[13] A synthesis of the present state of our knowledge will be found in the white paper preliminary to the Conference of Paris: Yvonne Capdeville, Francis Gendreau and Jean Meynard, *L'Agent Orange au Vietnam. Crime d'hier, tragédie d'aujourd'hui*, Paris, Éditions Tirésias, 2005.

[14] We would wish, for example, for comparative monographies between Vietnamese establishments and similar French institutions devoted to the care given some type on handicaps or other (motor, mental, etc...).

[15] *Disability in Vietnam in 1999: a meta-analysis of the data*, Washington, The Displaced Children and Orphans Fund & War Victim Fund, 1999.

activities; brutal disruption of cultural traditions; a cataclysm in the linking of generations; a high density of serious handicaps among adults and their children. We badly need anthropological works on the current situation of these populations. Even on the cultural plane, what do we know of representations and practices relating to dioxin? Of mutations of mythology subsequent to destructions inflicted on tropical forest? Of the place held by customs in the way families assume the misfortune that reduces them to misery?

On-spot ethnological investigations taking those problems into account would be particularly useful on the Highlands south of the 17th parallel. Anyway, for the country as a whole, a policy of training the population to use scientific resources in the medical charge taken of each victim would be enlightened by the analysis of current remanences of the tradition relating to diseases. Mechanisms of psychologic support would benefit to the utmost from a care taken of this dimension.

On the scale of Vietnam in its entirely, the conversations held within families by various humanitarian or scientific organizations bring out a multiplifier effect of sanitary and social handicaps. Often, the father or the mother has not solely been exposed to poisoning by dioxin; malaria, injuries and psychical traumas reduce the capacity for work and contribute to economic misery. Combined in certain regions with ravages caused to environment by defoliants, this situation often results in a grave malnutrition of children.

Law and political sciences

On an international scale, the question of right to compensation remains in abeyance, for the country as well as for each person whose health is affected by dioxin; the Brooklyn trial gives a judicial topicality to the question, at least to victims. For the latter's part, the question of rights must be contemplated in many domains: access to cares, disablement pension, appropriate education mechanisms, specified family allocations...Research works in international law become decisive for any action with a view to reparations coming whether from the American administration, or whether from the firms having produced defoliants holding dioxin. Juridical responsibilities for the damage caused by dioxin already appeared twenty or thirty years ago in industrial accidents, although on a much smaller scale, with accidents such as those of Sesevo (1976) and Bhopal (1986). All these elements bring about juridical expertise, argumentations and jurisprudences that give cause to research works in juridical sciences; they reach their highest point with the most devastating case, that of the damage caused by defoliants on Vietnamese soil. Thus, a French, Monique Chemillier, professor of international law, works very closely on the legal proceedings started by Vietnamese victims against firms producing defoliants.

Among political sciences, the most useful for the research into Agent Orange is the analysis of public policies on behalf of handicapped. In fact, the actions that can be profitable to Agent Orange victims are very often the same which meet other handicapper's needs. Thus, a Japanese study on Vietnam's public policy as regards handicap[16] collates legal provisions with statistical data. One fifth of serious handicaps is imputable to the war. Agent Orange is referred

[16] Country Profile on Disability. Socialist Republic of Vietnam, s.l., Japan International Cooperation Agency, Planning and Evaluation Department, 2002. This report mainly rests on a report drawn up by a Vietnamese consultant, Nhat Viet Co. Ltd, Basis Survey on the Sector to Support People with Disabilities in Vietnam, s.l., 2001.

to as the cause of the increase in the global number of handicapped (statistics from 1994 to 1995), on the grounds of troubles of human reproduction and also because of the remanences of dioxin in certain environments. By the same date, the major part of handicapped cannot get access to services they need, since they had no money. We can see that:

At the moment, 1,3 million people with grave disabilities receive allocation and aid, while a great number of people with moderate or slight incapacities are relatively neglected. In some regions, in particular rural and mountainous areas, people with disabilities often remain on the fringe of official programmes of social assistance of the State or only receive a paltry aid (p. 9).

Follows an inventory of factors causing these difficulties and indications on presently most effective mechanisms: local integration in schools of every child, "self-help" organizations, service providers, regional and international cooperation.

Public policies in favour of vocational training and employment of handicapped constitute here an essential key; thus, I have rested above on Julie Yoder's works. Likewise, the analysis of public policies of struggle against grinding poverty matches up with the question of families having children handicapped by dioxin. A recent communiqué of VAVA (10 January 2006) says that:

A notable proportion of Agent Orange victims figure among the most disadvantaged people at the national level. About 30% of families having victims are poor, and 40% suffer from grave malnutrition. The state of health of 30% of ill people is poorer than before. A third of affected children are not provided with schooling.

Finally, I have recalled above – about public health – the question of public policies of struggle against malnutrition, where intervene notably world organizations as well as NGOs.

Conclusion

Foreign researchers possibly give voice to an enlightening viewpoint because it is comparative. Moreover, research includes particular features in the culture of some country or other, and these features favour the recourse to some disciplines that can be less developed until now in Vietnam; European works on public policies constitute a typical example thereof. At last, transcultural collaborations are in a position to contribute to widening research strategies by know-how transfer through training, even by collaboration between Vietnamese and foreign laboratories.

We have in common the passion for moving on scientific knowledge; yet the problem bringing us together in this Conference – the major catastrophe, still topical, caused by Agent Orange – mobilizes us around a purpose still more fundamental than the research itself; it is the matter of helping to the maximum the affected families and populations; as researchers, the means we have at our disposal is the recourse to all disciplines that can make this help more effective. We ought to contribute to that by analyzing the current situation, with its historical background, and by working out programmes of action so Agent Orange victims may benefit from the Vietnamese society's rapid development. We hope this Conference will contribute to that.