



cirad

LA RECHERCHE AGRONOMIQUE
POUR LE DÉVELOPPEMENT

AGRICULTURAL RESEARCH
FOR DEVELOPMENT

in

VIETNAM

www.cirad.fr

- 2012 -

Dr. Jean-Charles MAILLARD

Table of Contents

<i>General framework</i>	3
Some facts and figures about Vietnam	3
Major challenges facing rural communities in Vietnam	4
The major challenges for agronomic research in Vietnam	4
<i>CIRAD in Vietnam</i>	5
Official status with the French Science Institute in Vietnam	5
A scientific strategy for improved national, regional and international cooperation	6
Partnership within national and regional structuring mechanisms	7
Scientific outcomes for environmentally-friendly intensification and quality development in agriculture chains in Vietnam	10
Regional impact	12
Strong involvement in training students, partners and industry professionals	12
<i>CIRAD's partners</i>	13
<i>Seven CIRAD staff members assigned to Vietnam (2012)</i>	15

General framework

Some facts and figures about Vietnam

- Land area of 331,000 km² with 4,600 km of land boundary (with China, Laos and Cambodia) and 3,400 km of seacoast (South China Sea and Gulf of Siam).
- Population of 87 million inhabitants with an annual growth rate of 1.2 percent (2011). The average population density is 268 people/km² with broad spreads in density between the overpopulated zones of the expansive Red River and Mekong Deltas (over 1,000 people per sq km) that are home to 47 percent of the population and its mountain zones (less than 10 people/km²). Life expectancy is 75 years of age. The literacy rate is 94 percent. The Kinh (Viet) ethnic group dominates (86 percent), while there are 54 other minority ethnics groups.
- Economic growth has been sustained (over 8 percent on average between 2003 and 2008), 6 percent in 2009 despite the global economic downturn, 7 percent in 2010 and 6 percent in 2011, but inflation remains very high (over 20 percent in 2008, 7 percent in 2009, 11 percent in 2010 and 19 percent in 2011).
- The GDP is US\$ 105 billion (putting the country in 42nd position globally in 2010), 20 percent of which is bound up in the agricultural sector. This sector in fact is the healthiest in the face of the current global economic crisis. However, this contribution to the GDP is dropping steadily as in all countries undergoing industrial development. Ten percent of the country's exports arise from the agriculture sector, mainly aquaculture products (including seafood), rice (Vietnam is the second largest exporter in the world with 7 million tonnes in 2011), Robusta coffee (second largest world exporter), cashew nuts (world's second largest), pepper (world leader), natural rubber (fourth largest in the world).

- The per capita GDP amounts to US\$ 1,160 (in 2010), which places Vietnam 138th on the global scale. As for the poverty index, 12 percent of its inhabitants live on less than US\$ 1.25/day. For purposes of comparison, the per capita GDP is US\$ 4,620 in Thailand, US\$ 984 in Laos and US\$ 795 in Cambodia.

Major challenges facing rural communities in Vietnam

- 72 percent of inhabitants live in rural communities; agriculture workers make up 58 percent of the overall work force.
- Coastal plains cover one third of Vietnam's land area; the two delta zones are very densely populated. The terrain in the rest of the country is hilly, mountainous or made up of upland plateau.
- Due to the lack of arable agricultural land (AAL) and to the abundance of labour, it has become necessary to intensify agricultural production. In parallel, there is an unavoidable rural exodus to the cities (25 percent of the population lived in cities in 2005, and the forecast is for 40 percent by 2023).
- In Vietnam, agriculture is extremely parcelled out (land holdings measure less than 1 hectare on average). Farming is largely family run on small plots and very labour-intensive. Farmers are combining intensification strategies (several crops of rice, increasing use of chemicals) and diversification strategies (horticulture, animal husbandry, activities in addition to farming).
- There is a need to develop industrial activities, handicrafts and tourism in order to create jobs for this large rural population. Coaching in intensification and diversification is needed on farms. The current policy aims to curb / control the rural exodus by such measures as reducing the gap in living standard between cities and countryside.
- Intensification of agricultural productions must be accompanied by more appropriate management of quality in order to generate value added. This must keep step with consumer demand as the standard of living improves and as world trade requirements kick in since Vietnam joined the World Trade Organisation (WTO) in 2007 (quality norms, sanitary norms, cold chain and distribution channels, controls and certification, traceability, etc.).
- Key agricultural product export items include rice (paddy), Robusta coffee, rubber, cotton, pepper, tea, soybeans, cashew nuts, cane sugar, peanuts, bananas, seafood, shrimp, fish from fish farms, poultry, pork, etc.
- The spiralling population figure (approximately 1 million a year) is a factor that increasingly threatens the environment and biodiversity, and managing it is a major challenge for the country.

The major challenges for agronomic research in Vietnam

- Research in Vietnam must therefore address the different development issues confronting a country on a healthy economic growth curve, which issues have broad implications. One such is the need to meet the significant increase in local demand for food products brought on by the population increase. This has led the government to put in place a plant and animal production intensification policy, against the backdrop of land constraints requiring greater production on ever smaller spaces. This intensification has to be environmentally friendly, i.e.

take into account product cleanliness and safety (public health). People have become more demanding in terms of labels and geographical indications. The environment must be safeguarded by proper upstream management of inputs (pesticides, fertilisers, hormones, antibiotics, etc.) and downstream management of effluents and waste. This requires the implementation of research work using a multi-disciplinary, integrative approach that takes into account the vast plant and animal natural resources (biodiversity) in a context wherein the organisation of labour in rural activities is undergoing change subsequent to the opening up of economic policies promoted by the government of Vietnam since the early 1990s.

- Vietnamese research partners are very eager to share in cooperation arrangements, but they remain scattered in standalone research-development structures and do little work together. The government is aware of this situation and has set up an administrative restructuring policy in several ministries. Due to its economic growth and recent membership in the WTO, Vietnam has won the trust of the world's leading funding agencies and must henceforth manage ever increasing sums of development assistance through such avenues as calls for projects that involve national research institutions. International working relationships are therefore increasingly founded upon genuine partnerships that are jointly built, jointly funded and jointly managed.

- **In this global context, CIRAD is legitimately on hand as a major partnership member in Vietnam's national institutions and universities.** Indeed, many of the government's research priorities are common to CIRAD's new priority strategic pillars (environmentally-friendly intensification of food production; diversified and reliable access to food; management of emerging risks, public policies for reduction of inequalities and poverty alleviation; sustainable management of rural spaces) which are highlighted in its regional cooperation agenda for Southeast Asia. CIRAD is thereby contributing to the capacity building of its partners through national platforms and international networks for research-education-development in partnership, such as the Skills Pole Partnership PCP- MALICA (Markets and Agriculture Linkages for Cities in Asia) or the two regional networks linking Vietnamese partners such as CANSEA (Conservation Agriculture Network in Southeast Asia) and GREASE (*Gestion des risques épidémiologiques émergents en Asie du sud-est / Management of emerging epidemiological risks in Southeast Asia*). And CIRAD is contributing to training programmes that lead to degrees or other qualifications in cooperation with national or French research institutions and universities, in particular through the new AGRENIUM consortium that umbrellas CIRAD, INRA, three graduate schools of agronomy (Paris, Montpellier and Rennes) and the Toulouse National Veterinary School.

CIRAD in Vietnam

Official status with the French Science Institute in Vietnam

In 2000, CIRAD signed a core cooperation agreement with the Ministry of Agriculture and Rural Development (MARD).

In 2002 and 2003 agreements were signed to establish two Skills Pole Partnerships: MALICA (extended in 2006 and 2010) and PRISE (concluded in 2009).

In 2006, the Vietnamese government gave CIRAD **an official licence** to open a representative office in Hanoi, thereby **conferring upon it the status of a foreign cooperation and research agency in Vietnam**. This was a good indicator that the positive things CIRAD had accomplished in Vietnam over the previous six years were duly recognised. Besides CIRAD, the CNRS and IRD are two other French agencies to have obtained this type of licence.

In 2007, at the incentive of the Embassy of France in Vietnam and with the administrative support of the Vietnamese Ministry of Foreign Affairs, CIRAD became physically associated with IRD and CNRS, the other French research entities in Vietnam, and set up the *Maison française des sciences et des technologies* (French Institute of Science and Technology) in Vietnam. The joint representative offices of these organisations are now headquartered in this institute.

In 2008, CIRAD signed a new five-year scientific cooperation agreement (2009–2013) with MARD that took on board the new strategic directions of CIRAD and MARD, respectively.

A scientific strategy for improved national, regional and international cooperation

Intersecting of CIRAD's six priority pillars and the priorities of the government of Vietnam has resulted in identifying several research objectives for the period 2009–2013.

- **Accompany public policies for the reduction of structural inequalities and poverty.** Identification of vulnerable actors and adaptation capabilities - Characterisation of factors that lead to increased inequalities. Multi-criteria evaluation of the policies. Impacts of free trade and competitiveness of different agricultures. Role of agriculture in the reduction of structural inequalities and poverty.

- **Understanding the relationship between agriculture and the environment and between human societies and nature to sustainably manage rural spaces.** Quantification of the impacts of environmental services on agriculture (on soil fertility, biodiversity, carbon sequestration and water quality). Focus on multi-criteria evaluation methods. Steering of territorial dynamics. Agricultural spaces *versus* spaces to be protected.

- **Contribute to the creation of an intensive yet environmentally-friendly agriculture to feed the population.** Designing production systems. Modelling production systems and designing tools to facilitate decision-making. Designing multi-criteria evaluation methods. Studying the demographic and adaptive processes of bio-aggressor populations. Improvement of plant material and study of functional regulations (agroecology).

- **Promote innovation to make food accessible, diversified and reliable.** Design cropping systems. Horticulture in the peri-urban context. Take technological criteria into account in varietal upgrading. Contaminants and nutritional, sanitary and organoleptic properties. Low input level systems or organic agriculture. Multi-criteria assessment methods for production systems. Traceability. Fungal toxins, microbial contamination and chemical pollutants. Processing techniques. Combining traditional and technological know-how. Post-harvest

technologies for fresh produce. Strengthening farmer adaptability. Analysis of consumer expectations and behaviour, new international regulations, health, social or environmental standards. Organisation of industry channels for the domestic market in general and urban market in particular.

- **Anticipate and manage infectious disease risks for domestic and wild animals.** Understanding the emergence and propagation of diseases: avian influenza, viral-borne and vector-borne diseases. Study the diversity and plasticity of the genomes of disease-causing agents, new vaccine strategies using specific markers, functional determination of the genetic variability of protective immune responses. Population studies. Risk modelling and management.

- And to a lesser degree, **study the conditions for the emergence of and ways to capture value from bioenergetics for communities.** Adapt and optimise existing systems. Compare production systems that could be put back into bioenergetics. Targeted plants: eucalyptus (pyrolysis energy), research on genes involved in the biosynthesis of lignin, oil palm tree (biodiesel), C4 metabolism plants. Impact studies on utilisation of such for energy purposes on crop production and market, management of natural resources and socio-economic development. Biomass transformation using thermo-chemical or fermentation processes. Capturing value from agricultural by-products.

Partnership within national and regional structuring mechanisms

CIRAD is working to structure and strengthen national research by working in partnership with Vietnamese research facilities (national institutes and universities). Since 2002, it has given special attention to research consortiums or regionally scoped Skills Pole Partnerships (SPP) and Network Pole Partnerships (NPP).

- A **Skills Pole Partnership (SPP)** is a scientific cooperation mechanism between Vietnam's national agencies and CIRAD (or with other French agencies such as INRA or IRD). Partnering up is a means of facilitating analytical thinking among researchers, jointly building projects with multi-disciplinary approaches and putting in place education platforms that yield a degree or other qualifications.
- A **Skills Network Partnership (SNP)** is a scientific cooperation mechanism between national agencies of the countries through which the Mekong River flows (Greater Mekong Subregion: Cambodia, Laos, Thailand, Vietnam and the province of Yunnan, in China) and CIRAD. Other French and international agencies outside of Continental Southeast Asia may be members or associates of these partnership networks. The objective is similar to that of the SPPs, i.e. facilitate joint analytical thinking among the researchers, jointly built projects with a regional impact using multi-disciplinary approaches and setting up educational streams that yield a degree or other qualifications in articulation with international universities.

Research cooperation arrangements with Vietnamese partners

The MALICA Skills Pole Partnership

MALICA is an acronym for Markets and Agriculture Linkages for Cities in Asia. This SPP was set up in 2002 and included VAAS (FAVRI, FCRI /CASRAD), IPSARD (RUDEC) and CIRAD. Under this framework, two CIRAD researchers are assigned to the Vietnamese partner members of MALICA. MALICA is a Vietnamese-French research consortium on food markets and city-rural relationships aiming to adapt local production to the urban demand for quality products, thereby reducing poverty. It strengthens research capacities and supports public policy decision makers, farmers and stakeholders in the food marketing industry. Among other things, MALICA is seeking ways to improve the income of smallholder farmers through better market access. Three research pillars are developed: 1) organisation of the stakeholders for quality management in the chains; 2) dynamics of domestic food markets; 3) role of food distribution in agriculture sector reformatting. In addition to partner counterpart funding MALICA, receives additional external funding from the ACIAR, ADB, FAO, ADETEF and French regions (decentralised cooperation).

The CANSEA Skills Network Partnership

The CANSEA Skills Network Partnership on **conservation agriculture** is a multi-disciplinary approach integrating agroecology and zero-tillage direct seeding techniques. It brings together a number of partners in the region. For Vietnam, the two partners are the National Institute for Soils and Fertilizers (NISF) and the Northern Mountainous Agriculture and Forestry Science Institute (NOMAFSI). The AFD is currently funding the ADAM Project (*Appui au Développement de l'Agroécologie en zone de Montagne / Support for Agroecology Development in Mountainous Zones*), which is a project in support of NOMAFSI for developing the agroecology approach to build the competitiveness and sustainability of cropping and farming systems in the medium-altitude and mountainous regions of northern Vietnam. A CIRAD researcher has been given a four-year renewable technical assistant posting to NOMAFSI (2009-2012).

The GREASE Skills Network Partnership

The GREASE Skills Network Partnership for the **Management of Emerging Epidemic Risks in Southeast Asia** is being steered from Thailand's Kasetsart University (Faculty of Veterinary Medicine) and is an umbrella for several regional partners. The Vietnamese partner is the National Institute for Veterinary Research (NIVR) to which two CIRAD researchers have been assigned to work in two regional projects funded by France, the GRIPAVI project (with funding from the French Ministry of Foreign and European Affairs' FSP budget) focussing on the epidemiology and ecology of the highly pathogenic avian influenza (HPAI) in Vietnam (2007–2010) and the REVASIA project (funded by the DGAL, FRIA of MAAPRAT) on the development of new methods of assessing surveillance systems, in particular for avian influenza in Southeast Asia (started in 2009).

CIRAD researchers within national research and higher education institutions

In 2012, two of the three departments of CIRAD are present in Vietnam: four staff members from the Environment and Societies (ES) department and two from the PERSYST department (*Performances des systèmes de production et de transformation tropicaux / Performance of tropical production and processing systems*).

In addition to the regional director for Continental Southeast Asia (DRASEC), six long-term CIRAD researchers are working in various national facilities (*see synopsis table at end of document*), in cooperation with some 40 Vietnamese researchers and numerous field technicians.

In addition to the five staff members assigned to national institutions that are members of the partnership mechanisms (two with MALICA, two with GREASE and one with CANSEA), another one is located in the Hanoi University of Science and Technology (HUST) in the School of Biotechnology and Food Technology (SBFT).

Further, CIRAD has entered into a long-term partnership with the National Institute of Animal Science (NIAS) and the Hanoi University of Agriculture (HUA) with a focus on animal husbandry. This partnership got started with PRISE (*Pôle de Recherche sur l'Intensification des Systèmes d'Élevage / Research Pole on Intensification of Animal Husbandry Systems*) in which CIRAD was a key driver from 2003 to 2009. Since 2010,

CIRAD is no longer a partner in this pole, but the partnerships and research theme focuses of the GREASE network and the MALICA pole have drawn significantly from the achievements of PRISE. Today, two researchers are still assigned to the MALICA and GREASE mechanisms and work part time at NIAS, where they are developing activities relating to the analysis of animal husbandry systems: the Animal Husbandry Observatory in Vietnam, set up in 2010 in partnership with IPSARD and INRA; the project run by the Australian Centre for International Agricultural Research (ACIAR) for beef cattle in the northwest of the country (2011–2013); the SDE-CIRAD project on Analysis of the Relationship Between Animal Husbandry and Family Vulnerabilities (2009–2012). CIRAD is also sharing in master's degree curriculums at the Hanoi University of Agriculture.

Scientific outcomes for environmentally-friendly intensification and quality development in agriculture chains in Vietnam

Over the last few years, several projects have been implemented that yielded a large body of research results. The following is an incomplete list of the key outcomes:

- Domestication and capturing value from new aquaculture species (preservation of aquaculture biodiversity through the development of economic activities). This contributed to the spectacular development of catfish farming (*Projet Pangasius [2001–2008] with Ministry of Foreign Affairs regional funding*). The national production of *Pangasius* sextupled in 15 years, jumping from 50,000 tonnes/year in 1990 to 350,000 tonnes/year in 2005 and accompanied by a substantial improvement of the production economics of this chain.
- Analysis of the commercial growing of fresh peri-urban produce and the regional vegetable trade between Vietnam, Laos and Cambodia. Highlighted the growing consumer demand for guaranteed safe produce and organisation of producers to address this demand. Evaluation of new ways of labelling and certifying the sanitary quality of vegetables. Quantified data on the role of peri-urban zones in terms of fresh produce supply, especially leafy greens, were obtained. Capacity building of senior management members of research institutes and Vietnamese government officials on market analysis. SUSPER project (2002–2006) funded by the regional MFA-FSP. SuperChain project (2007–2009) funded by IFAD. “Out-of-season Vegetable Project,” funded by ACIAR (2011–2014).
- Development with farmers and other local stakeholders of sustainable agroecological growing systems with zero-tillage direct planting in mid-altitude and mountainous zones; efficient, environmentally friendly natural resource development enabling an improved standard of living for rural communities. Development of techniques based on minimum soil ploughing, keeping a plant cover on it, thus protecting the soil from erosion, maintaining or improving soil fertility by recycling nutrients and reactivating organic processes, reduction of ploughing time and effort, crop diversification and integration with animal husbandry and tree planting. PAOPA, SAM1 projects (1999–2002), SAM2 (2003–2006) and ADAM (2009–2012) with AFD funding.
- Improvement of milk production in Vietnam by developing temperate forage crops such as oats, which was a very satisfactory, appropriate solution from an agronomic point of view to reduce the forage deficit in winter in higher altitude milk pools. The use of such

forage for milk cows enables sustained milk production throughout the winter and has given dairy farmers much higher incomes. Moc Chau Project (2002–2007) funded by Trans ADD, Duras and Belgian Cooperation (BTC).

- Study of sustainable development prospects for the swine industry in the Red River Delta area. Impact assessment of intensification of such production on the environment (effluent management, pollution risks, etc.) and on diseases (emergence risk). Asia Pro Eco E3P Project (2005–2006) funded by the European Union, involvement in the SUSAN project (2009–2011). Research also focussed on supporting producer organisations and identifying prospects for improving pork meat quality (DURAS Project, 2006–2008).
- Characterisation of and capturing value from domestic and wild animal biodiversity in northern Vietnam's mountainous zones. This resulted in greater insight into the animal husbandry systems practiced in these underprivileged zones and in the development of numerous *in-situ* and *ex-situ* projects to safeguard a number of outstanding animal populations (adaptation to difficult environments, disease resistance, prolificacy, etc.) in cattle, water buffalo, goats, swine and chickens. BIODIVA Project (2003–2008) under funding from the country Ministry of Foreign Affairs-FSP.
- Highlighting the social and economic role of traditional distribution in Hanoi and Ho Chi Minh City (street markets and selling), evaluation of successful experiments with producer organisations and contracts enabling small-scale producers to have access to supermarkets (perfumed rice, clean vegetables, litchi): MALICA's involvement in the project "Making Markets Work Better for the Poor," with funding from the ADB and DFID.
- Expert assistance during the avian influenza crisis and implementation of ecological, epidemiological and genetic studies of the evolution parameters of this disease. GRIPAVI and GENAVIFLU projects (2007–2008) funded by the regional Ministry of Foreign Affairs-FSP and ANR, and REVASIA project for epidemic surveillance (2009, ongoing).
- Food safety and epidemiologic studies of food zoonotic agents in animal production chains (*Salmonella*, *Listeria* in the pork chain, study of antibiotic resistance, sanitary quality of raw milk), 2004–2007 funded by DURAS, LABELSUD, national projects.
- Development of tools to help identify species using computer science and information technology (CSIT) applied to botany and plant systematics. Such tools are beneficial for training and information dissemination. A "Southern Vietnam Pollens" project is underway in partnership with the Faculty of Natural Sciences of the Ho Chi Minh City University under funding from the "Sud Expert Plantes" FSP. A CD-ROM tool for recognition of pollen grains from 100 of the key tree species in southern Vietnam was released in 2010. With funds from the Agropolis Foundation (Pl@ntNet Project), the Cuu Long Delta Rice Research Institute (CLLRI) is in the process of developing a Vietnamese version for rice paddy weeds in southern Vietnam and is sharing in the setting up of a global platform providing access to information on species. A CD-ROM is planned to come out in 2011.

All of these outcomes have been highlighted in the form of several dozen scientific articles published in partnership in numerous international impact factor scientific journals. Many books and extension documents have been disseminated and several communication products (websites, publication of diverse books and documents, brochures, etc.) were co-published in Vietnamese and French.

Regional impact

In the framework of its regional operating scheme for 2008–2012, CIRAD’s activities with its Vietnamese partners continue to have a very broad focus on regional and international cooperation.

In addition to the two regional networks CANSEA and GREASE, in which Vietnamese national institutions are partners (as detailed previously), the following is an incomplete list of ongoing projects:

- The **Superchain** project under the MALICA Skills Pole Partnership with funding from IFAD, involving Vietnam and Laos.
- “**Sud Expert Plantes**” a Ministry of Foreign Affairs FSP for its Asian component, focussing on Vietnam, Laos and Cambodia.
- **GRIPAVI**, a Ministry of Foreign Affairs FSP on avian influenza in which Vietnam is working in cooperation with several countries of Asia, Africa and Madagascar.
- **PI@ntnet** project platform funded by the Agropolis Foundation, started in 2009 with a component focussing on the use of new computer science and information technology to identify rice paddy weeds anywhere in the world, taking place in Vietnam (MICA-IPH, NOMAFSI and CDRRI) and China. This global partnership comprises a very extensive training component.

Strong involvement in training students, partners and industry professionals

For many years in Vietnam now, CIRAD has devoted considerable attention, energy and funding to develop training activities leading to a degree or other qualification and outreach activities for **dozens of students**, both Vietnamese and French, **hundreds of national partners**, researchers and technicians and **thousands of professionals** in industry chains (farmers, growers, co-ops, etc.):

The training programmes are funded in part by CIRAD (DESI programme) with substantial complementary funding often supplied under the different projects.

Degree-granting training

- Annual coaching of Vietnamese and French PhD candidates / thesis writers.
- Annual coaching of Vietnamese and regional students in master’s degree programmes.
- Annual coaching of long-term Vietnamese and French interns at all levels.
- University curricula.

Training leading to other qualifications

- Organisation of technical and specific workshops of several days in length for staff members of institutional partners and universities.

- Annual coaching of personalized individual training programmes in France (CIRAD or INRA) and in Vietnam.
- Organisation of study tours to France.

Extension

- Support to the organisation of numerous workshops and seminars offering technical training for professionals in agriculture, animal husbandry or aquaculture chains.
- Production of very numerous documents of grey literature in the national language (brochures, booklets, posters, etc.).

Moreover, CIRAD researchers are regularly requested to sit on scholarship assessment and awarding boards (PhD and masters candidates) in the PhD schools and universities in France on behalf of the MFA / Embassy of France in Vietnam (Hoa Sen and Evariste Galois programmes) or the AUF.

CIRAD's partners

Ministry of Agriculture and Rural Development (MARD)

- CIRAD's key partner in Vietnam is the Ministry of Agriculture and Rural Development. A core agreement was signed with MARD in May 2000, renewed in May 2008 and followed by the signature of several specific agreements between CIRAD and research institutes under MARD.
- MARD has 12 research institutes, four of which include CIRAD: the National Institute of Animal Science (NIAS), the National Institute of Veterinary Research (NIVR), the Institute of Policy and Strategy for Agriculture and Rural Development (ISPARD) which includes RUDEC, and the Vietnamese Academy of Agricultural Sciences (VAAS).
- Further, within VAAS, four different facilities include CIRAD: the Fruit and Vegetable Research Institute (FAVRI), the Northern Mountainous Agriculture and Forestry Science Institute (NOMAFSI), the National Institute for Soils and Fertiliser (NISF), the Field Crop Research Institute (FCRI), of which the Centre for Agrarian Systems Research and Development (CASRAD) is a part.

Universities

- Vietnamese universities in both the north and south of the country have been longstanding partners of CIRAD for the development of cooperation arrangements in terms of hosting students, doctoral candidates or researchers for lectures or training sessions. They are important partners for CIRAD in its strategy of rapprochement with the universities since two long-term researchers are posted in the Hanoi University of Science and Technology (HUST), two others are working with the Hanoi University of Agriculture and CIRAD is a member of the France-Vietnam Consortium of the new University of Science and Technology of Hanoi (USTH).

Other institutional partners

- The Ministry of Science and Technology (MOST) is our administrative line ministry (for the granting of our official activity permit). The main cooperation arrangement to date was the BIODIVA Project in which MOST was the project owner for the Vietnamese side. New discussion started in 2012 to identify scientific topic of collaboration.
- The Vietnamese Academy of Science and Technology (VAST) also worked with CIRAD as part of the BIODIVA Project with its reproductive biology laboratory belonging to the Institute of Biotechnology.
- The National Agency of Science and Technology Information (NASATI) is the Vietnam focal point of the European programme SEA-EU-NET in which CIRAD is very active. NASATI was also a partner of CIRAD in the BIODIVA Project (2005–2008) in which it cared for all communication and public dissemination of the project's results.

Seven CIRAD staff members assigned to Vietnam (2012)

Name	Department	Research Unit	Specialty	Assigned	Facility / Project	Partners	Mobility
Delabouglixe Alexis	ES	UPR-AGIRS	Epidemiology	Hanoi	RCP-GREASE	NIVR	Since Jan 2012
Duteurtre Guillaume	ES	UMR-SELMET	Industry economics	Hanoi	PCP-MALICA	RUDEC	Since Sept. 2009
Hauswirth Damien	PERSYST	UPR-SIA	Agronomy	PhuTho	Mountain zero-tillage direct seeding / ADAM	NOMAFSI	Since Oct. 2008
Maillard Jean-Charles	DRS	DGD-RS /DREI	Research management	Hanoi	DRASEC	MARD-MOST	Since Jan. 2003
Peyre Marisa	ES	UPR-AGIRS	Epidemiology	Hanoi	RCP-GREASE	NIVR	Since July 2010
Sarter Samira	PERSYST	UMR-QUALISUD	Microbiology	Hanoi	SBFT	HUST-IPH	Since Aug. 2011
Sautier Denis	ES	UMR- INNOV.	Agroeconomics	Hanoi	PCP-MALICA	VAAS / CASRAD	Since May 2009

Bibliography:

Vietnam 2011 (Christophe Gironde & Benoît de Tréglodé), in *L'Asie du sud-est 2011 / Les événements majeurs de l'année*; pp. 309-331; Coll. IRASEC documents, Publisher: A. Leveau & B. de Tréglodé, ISBN 978-616-90282-9-1.