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Affaire suivie par
Frank PACARD

Tél 01 55 55 97 36
Fax 01 55 55 98 73

Mél.
frank.pacard @recherche.gouv.fr

1 rue Descartes
75231 Paris cedex 05

Final report on the scientific activities of the CIMPA in 2006 and 2007

This is a synthesis of the evaluation reports which have been written by four international experts under the joint requirement of the UNESCO and the Ministère de l'Enseignement Supérieur et de la Recherche. The evaluation of the scientific activity of the Centre International de Mathématiques Pures et Appliquées (CIMPA) takes place every two years according to the agreement which has been signed between the two organisations.

The experts have been chosen among mathematicians of developed countries as well as developing countries, jointly by the two above mentioned organisations. The evaluation by the experts is based on the documents on the scientific activity which have been provided to the experts by the CIMPA.

Introduction

The CIMPA is a non-profit international organization. Its main purpose is to promote higher education and research in mathematics and related subjects, in particular computer science, through international cooperation for the benefit of developing countries.

The missions of the CIMPA, as described in the agreement between the UNESCO and the Ministère de l'Enseignement Supérieur et de la Recherche, are the following :

1. to hold international workshops relevant to the needs of the developing countries of the region concerned and in partnership with institutions with similar purposes;
2. to provide access to the existing scientific documentation in whatever form and to increase the use of new information technologies;
3. to foster regional networking with a view to increase dialogue and interaction with mathematicians in industrialized countries and the least developed countries;
4. to assist in the creation of graduate and post-graduate training courses, as well as basic training, for future researchers or teachers in mathematics and engineering in developing countries.

While schools and workshops have been the main activity of the CIMPA since its early days, activities 2 to 4, as defined above, correspond to rather new missions given to the CIMPA.

Evaluation report

1 - Budget and subsidies

As was already the case in previous reports, all experts point out that, despite an increasing scientific activity, CIMPA's budget has not increased over the past years.

2 / 4

Indeed, CIMPA's most important subsidy certainly comes from the Ministère de l'Enseignement Supérieur et de la Recherche and this subsidy has globally increased by 9% since 2001 (the part which comes from the Direction Générale de la Recherche et de l'Innovation (DGRl) has substantially increased by 26% since 2001, while the other part coming from the Direction des Relations Européennes et Internationales et de la Coopération (DREIC) has decreased by 33% since 2001).

However, the subsidy from the UNESCO is decreasing year after year and the experts are really concerned about this fact: this subsidy is now about 10 k USD while it was more than 7 times higher in 2001.

In the total budget of the CIMPA, there is also an important part coming from various sources (ICTP, IMU, special programs of the UNESCO, UNSA,....). On the one hand, this clearly indicates that CIMPA's scientific activity is well recognised at an international level by many different partners but, on the other hand, this also points out that the CIMPA has to fight constantly to find new sources of financing to be able to pursue its activities correctly.

Also, it should be mentioned that the CIMPA has been granted one professor position and one PRAG position by the Ministère de l'Enseignement Supérieur et de la Recherche.

Local funding from different partners is always necessary to complete the financing of the different schools and workshops organised by the CIMPA. In fact the share of the CIMPA funding in each school varies from 25% to 45%. The involvement of local partners in the financing of the schools is viewed as very positive sign by the experts. The CIMPA also takes advantage from the fact that, aware of the importance of its action, many colleagues do help (for free) in the organisation of the scientific activities.

As a final remark on the subject of financing, it is mentioned by the experts that most of the budget is really dedicated to the scientific activities (payment of travel and local expenses for the participants to the workshops and schools) while expenses of a more administrative nature remain at a very reasonable level.

2 - Schools and Workshops

CIMPA's activity in the organisation of schools and workshop is considered by all the experts to be extremely successful. The number of schools organised every year seem to stabilise at 9 or 10 schools, and, given the budget of the CIMPA, this is considered by the experts to be quite an achievement. Reports also mention that the number of people involved as participants or organizers is admirable.

The geographic distribution of this scientific activity covers all areas and this is considered as a very positive sign. One of the experts points out that the question about the need of organising schools and workshops in countries which can now be recognised as being scientific leaders should be raised (this is for example the case of China in the domain of mathematics or India in computer science). The fact that the CIMPA does not set a theme or a scope in a particular year, as done by other international organizations, is considered as advantageous since mathematicians can always find activities that they can join in a particular year.

The variety of topics addressed during the schools is well balanced between pure and applied mathematics computer science, mathematical physics, ... The experts are truly impressed by the very high scientific level of the schools and by the fact that the CIMPA has been able to involve a large number of scientifically well established foreign researchers, even though French researchers involved in CIMPA's activities remain a majority.

One of the experts proposes that the long term impact of CIMPA's activities (such as school and workshops) deserves a better analysis (for example it would be interesting to know what are the networks, training, and local scientific development which have been triggered by CIMPA's activity).

3 - The SARIMA project

The SARIMA project is financed by the Ministère des Affaires Etrangères and complements the activities of the CIMPA in Africa. Some experts believe that it would be interesting to include a scientific report of the activities of the SARIMA project to get a global view of the action of CIMPA in Africa.

3 / 4

4 - Documentation

As far as documentation is concerned, number of interesting suggestions have already been made in the previous reports. However, giving life to these suggestions requires some extra funding which was not granted to the CIMPA. It is therefore understandable that CIMPA has not been able to develop this aspect of its activity as far as it wanted to.

The web site of the CIMPA is very clear and well organised. This is a very useful tool for participants and organisers of the schools and in particular, this is where the publications of the CIMPA can be found. The experts believe that it would be helpful to have the web site also available in English.

Some lectures given during the schools organised by the CIMPA are published either by Hermann (collection Travaux en Cours) or by the Société Mathématique de France (collection Séminaires et Congrès). The fact that researchers from developing countries can buy these publications at a special rate is highly regarded by the experts.

It is very unfortunate that it could take as much as 4 years before the lectures are indeed published. This delay in the publication is partially compensated by the fact that the lectures are available online before being published (this was suggested by the experts of one previous report and experts of the current report insist on the fact that all lectures should be freely available online before being published). One of the experts suggests that all publications of the CIMPA should appear under a unique collection title whose name involves explicitly the CIMPA.

The CIMPA should strongly encourage all schools to publish their proceedings and to upload the lecture notes in the CIMPA's website. It is suggested that the CIMPA should allocate a budget for the publication of the proceedings so that the school organizers will be more inclined to come up with these publications.

The newsletter which describes the activities of the CIMPA and which appears every 3 months is regarded as very interesting. It is suggested that this newsletter also includes some papers with scientific content, in addition to all the information it contains.

All the above shows the CIMPA is very involved in providing some documentation to developing countries. Even though, a lot of libraries are still very poorly equipped, and the experts hope that the CIMPA could be given more funding to undertake more actions in this direction.

5 - Networking and training

In Latin America, the CIMPA has done a wonderful work in developing some collaboration with the local partners and in developing some partnership with some European countries, and specially with Spain. In South-East Asia, CIMPA's activities are strongly present and this has given rise to the development of new training programs as well as some partnership with European countries.

It is stressed that the schools organized by the CIMPA help to develop cooperation and networks not only between mathematicians from developed and developing countries but also between mathematicians in the region (this is for example the case in Southeast Asia).

It is suggested that the CIMPA could be more involved in doctoral training. For example, the CIMPA's Schools are good opportunities for selecting students who can be given scholarships from countries of the European Union.

7 - Executive and scientific boards

The scientific board is well balanced from a scientific point of view. Moreover, the fact that it contains representatives from various countries is extremely significant (4 members work in France, 3 in Germany, 1 in the United-Kingdom , 1 in Spain, 1 in Norway, 1 in Tunisia, 1 in Saudi Arabia, 1 in Cameroon, 1 in Brazil, 1 in Chile). Perhaps some better balancing should have been considered as far as representatives of European countries are concerned. Also observe that there is no representative of Asian countries.

4 / 4

Some experts have felt that there is a need for more interaction between the scientific and executive boards. The scientific board ensures the very high scientific level of the activities of the CIMPA. This is by now a well established fact and the organisation under the name of CIMPA is considered as a label of scientific quality.

Conclusion

All experts are impressed by the fact that the CIMPA has been able to develop so many high quality activities with so little funding. The amount of energy the director Michel Jambu and the persons in charge of the different geographic sectors (C. Lobry, M.F. Coste-Roy, A. El Soufi and M. Waldschmidt) provide in the development of the activities of the CIMPA is remarkable and this certainly explains the great success of the CIMPA.

The CIMPA is a unique institution which has an excellent expertise and very high ethics on the development of mathematics in developing countries. It has acquired over the years an international visibility, both in developed and developing countries. For all the above reasons the recommendations of the experts are very strong.

Both the UNESCO and the Ministère de l'Enseignement Supérieur et de la Recherche should be aware of the fact that, nevertheless, the CIMPA remains very fragile because of the lack of proper funding and of the small number of permanent staff.

Frank Pacard
Chargé de Mission

