

EDITORIAL

We are proud to present this second IFORS newsletter to all the IFORS members. Every member of an IFORS member society is also associated with IFORS, which means this newsletter should reach the majority of Operations Researchers worldwide. Our newsletter is a bit late since we are aiming to distribute it electronically via interactive email and are going through a learning process in this regard.

This edition of the newsletter contains a variety of articles and news items. There is a short piece from the IFORS Vice-President-at-Large responsible for publications, giving an update on the challenges facing IFORS around its two main publications – the International Abstracts in Operations Research (IAOR) and the International Transactions in Operational research (ITOR). Fittingly, there are short biographies (see pages 2 and 3) on the two persons responsible for these two publications.

Heiner Muller-Merbach, a Past President of IFORS, wrote a short article on the First International Conference on Operational Research. This conference took place in September 1957 and preceded the formal establishment of IFORS in 1959. The article is appropriate in the light of IFORS celebrating its 50th anniversary at the IFORS conference to be held in Sandton, South Africa in 2008.

Three short reports on recent conferences are presented. IFORS was involved in all three these conferences either through co-sponsorship of the conference or as a conference of a member society. In

the latter case the Japanese OR (ORSJ) society celebrated its 50th anniversary – congratulations from the entire international OR community!

Our feature article is on a topic that is very relevant in many of the developing countries in the world – the community and poverty alleviation. It outlines an approach to address the challenges faced by the K-town community in South Africa.

IFORS has a number of regional groupings and we present a short history of one of these, namely ALIO (Asociacion Latino-Ibero-Americana de Investigacion Operativa, Latin American Ibero Association on Operations Research). The activities of this regional group, over the years since its formation, are outlined.

Finally there are a number of calls for papers for special editions of ITO, a call for papers for the IFORS prize for OR in Development and an invitation to IFORS 2008.

This newsletter will only be able to serve you – the members of IFORS – if you provide the editor with news items, feature articles, etc.

I would therefore like to extend an invitation to you all to contribute to the IFORS newsletter. I look forward to these contributions!

Hans W Ittmann
Newsletter Editor

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This newsletter may be reproduced in whole or in part. We encourage reprinting in national and local operations research periodicals. Acknowledgement to IFORS would be appreciated.

From the Administrative Committee:

The challenge of publications

Since its very beginnings, publications have played a very important role within IFORS. In fact, besides the triennial conferences, the International Abstracts in Operations Research (IAOR) has probably been, since 1961, the most visible contribution of the Federation to the OR community. For many years, IAOR has been a key tool for those wishing to know what was being published in OR journals around the world. Furthermore, IAOR has been a very significant source of revenue for IFORS. Since 1994, IFORS has also sponsored a second publication, the International Transactions in Operational Research (ITOR), a journal publishing scientific articles on a variety of OR topics. Among other things, a vast number of issues of ITOR have been devoted to the publication of papers presented during the triennial conferences.

But time passes and things change. Over the last few years, the role of IAOR as a key listing for OR references has been eroded by the development of the World Wide Web and of powerful browsers, such as Google, which allow one to access references and links to the websites of journals in a matter of

seconds. In such a world, there is much less need for a paper-based referencing system. Will this mean the final disappearance of IAOR? NO! The paper version of IAOR will soon be supplemented by a powerful online system, which has been designed with the objective of regaining IAOR's place as the best and the most useful source of OR references. This is a huge challenge, since it involves providing subscribers with more relevant and better bibliographic information than what can be obtained from the freely available browsers. This will be achieved through a comprehensive database that will allow users not only to search by keywords, but also by subject. Furthermore, various other functionalities will make this new IAOR Online much more than just a reference browser. We expect this new IAOR Online to become available around the middle of 2008.

ITOR is also going through changes this year. It has a new Editor, Professor Celso Carnero Ribeiro from Brazil, and a largely rejuvenated editorial board. The change of Editor presents a golden opportunity for revisiting the editorial policy. Among other things, several persons have questioned

the fact that a large part, if not most, of the journal issues have been devoted to papers presented at triennial conferences. While this may be attractive to authors presenting at these conferences, it also tends to make the journal unfocused, since more often than not, the only thing these papers have in common is that they were all presented at the same triennial conference. In future, the space devoted to articles from the conferences will be drastically reduced to make space for other material. Among other things, the new Editor intends to have special issues focused on current topics. Finally, there is a definite need to give more importance to what makes ITOR unique, in particular, the applications of OR in development, a subject that is seldom covered by other major OR journals.

Meeting all the challenges listed above will require a lot of hard work, but we believe this is the only way to keep IFORS prospering!

Michel Gendreau
Vice-President

MEMBERS OF THE IFORS COMMITTEE

Celso Ribeiro - Editor of ITOR

Dr Celso Ribeiro is a Full Professor of Computer Science at Universidade Federal Fluminense (UFF) in Brazil. He is a former President of the Brazilian Society of Operational Research (SOBRAPO) and of the Association of Latin-Iberoamerican Operational Research Societies (ALIO), as well as a former Vice-President of IFORS for ALIO.

He is currently the General Editor of the International Transactions in Operational Research (ITOR) and Associate Editor of several other journals, such as Pattern Recognition, Journal of Heuristics, Discrete Optimization, Parallel Computing, and RAIRO Recherche Opérationnelle. He is also a member of the Brazilian Academy of Sciences.

Professor Ribeiro has more than 90 papers published or accepted in international journals. He has authored more than 60 book chapters or full papers in proceedings of international conferences. His main research interests concern exact and approximate algorithms for combinatorial optimization problems, with a particular focus on sequential and parallel metaheuristics applied to optimization problems in sports, network design, bioinformatics, and power systems operation.





David Smith - Editor of IAOR

David Smith has edited the International Abstracts in Operations Research since 1992. While in the editorial chair, he has processed over 40,000 abstracts from the worldwide literature of OR/MS, and has seen the role of IAOR change and expand. Since 1992, the number of abstracts published annually in the IAOR has grown from 2 400 to about 4 000. Initially it only appeared as a print version, six times a year. Currently, it is in print and online, with eight issues each year. David was associated with IAOR from the 1970's when he assisted and then became the UK contributing editor for the journal.

David became involved in OR after studying mathematics at the University of Cambridge; first he took a Master's programme at the University of Lancaster, and then researched for a doctorate. To emphasise that OR crosses disciplines, one supervisor was from OR and the other was a geographer, while the examiners were civil engineers. Most of his career has been spent at the University of Exeter, in south-west England ("Hound of the Baskervilles" country). Besides teaching, he has published research in many journals, and written three text books. He is semi-retired, but continues to research, and has contributed to several of the recent conferences for OR in Africa.

He is married, and when not editing "The Abstracts" he is a lay member of his church's leadership and teaching team. He also finds time to look after a large garden, collect and research in a specialised area of philately, and enjoys travelling.



Dear Operations Researcher

We have pleasure in calling for papers and inviting your registration for the **18th Triennial Conference of the International Federation of Operational Research Societies (IFORS)** that takes place in **Sandton, South Africa from 13-18 July 2008**. Sandton is situated in Gauteng Province, the economic power-house of Africa, and you can be assured of not only a highly successful scientific conference but also of a location that is world class and very special. The main venue is the Sandton Convention Centre, which is located in the heart of Sandton's hotel, business and entertainment district and is South Africa's most technologically advanced convention centre.



We would like to invite you to participate in this conference and we extend a warm welcome to you to register for the conference at this time. We would like to draw your attention to the special rate that applies to those registering early: the Supersaver rate of ZAR (South African Rand) R4490. This rate represents excellent value for money as in addition to the conference it encompasses the welcome reception, gala dinner and social excursion as well as a complimentary airport arrival transfer on select days. Special rates for accompanying persons and a full accompanying person programme are available and can be viewed on the website. To register on-line please refer to the website www.ifors2008.org. This site also has information on the programme, social events, accommodation, tour and travel options for the conference. Please note the deadline dates and earlybird registration discount.

We have appointed African Conferences & Incentives (ACI) as the Professional Conference Organiser and agent to handle registration, accommodation and logistical arrangements for IFORS 2008. In addition, should you wish to make any other pre- or post- conference arrangements, please feel free to contact ACI at the address ifors_info@acitravel.co.za with any special requests you may have.

Please also note that ACI as the organisers, have negotiated specially discounted rates for international flights to South Africa, in both economy and business classes on the award-winning national carrier South African Airways. In order to avoid possible airfare increases and to ensure that preferred dates and classes of travel are available, participants are encouraged to make their reservations with ACI as early as possible.

Preferential accommodation rates have been negotiated for the conference as well as an attractive array of pre and post-conference tours. Experience the Garden Route, a scenically stunning area, the world famous Kruger National Park, and no visit would be complete without taking time out to visit the Cape Peninsula to savour its special attractions. We recommend making reservations early to avoid disappointment and ensure that you are accommodated at your preferred hotel. Full prepayment is required to guarantee reservations at these special rates.



We believe this conference will surpass your expectations both scientifically as well as in terms of the special beauty and diversity of South Africa. From the Cape Peninsula with its stunning scenery, to the spring flowers of Namaqualand, the magic of the African bush and its famed Big Five to the mighty Victoria Falls, Okavango Delta and its wetlands or the superb Namib desert... all these await.

We look forward to welcoming you to South Africa - a world in one country!

Kind regards

Hans Iltmann
Chairman IFORS 2008 Organising Committee



About the First International Conference on Operational Research

The first International Conference on Operational Research took place in Oxford (UK), the first week of September, 1957. The foundation of the International Federation of Operational Research (IFORS) followed in due course. The Economist wrote about the conference on 7th September, 1957 (pp. 784-787):

“OPERATIONAL RESEARCH

Optimum Management

BRITAIN'S power stations – there are about 200 of them dotted round the country – draw about 40 million tons of coal a year from some 800 mines (which is a good deal more concentrated into the North of England and Wales). The coal comes by rail, sea, canal, and road; it costs the Central Electricity Authority about £ 30 million a year to move it. Last year, CEA gave one of the operational research groups it has set up in each generating division the problem of calculating how – from which pits to which stations, in what kinds of transport and over which routes – it could supply the stations in this division with the coal they needed at the minimum cost; and has been encouraged enough with the results to widen the exercise towards national scope.

This is exactly the kind of problem to which one of the techniques used in operational research – linear programming – was designed to apply. This mathematical technique can be used to evolve an optimum use of the transport system. In practice, complications such as inadequate cost information, the fact that different power stations burn different coals best, and unforeseen stoppages of plant or strikes at pits may make the use of the system less than optimal: but significant improvements can be had. In the divisions, the operational research team have generally found economies of just under 1 per cent could be achieved, in comparison with what was done before. This is marginal (suggesting that the purchasing officers were already very good): but 1 per cent of £ 30 million is well worth having, and programming on a national scale (since large tonnages of coal pass across NCB and CEA divisional boundaries) may offer further economies.

Most of the British papers given at the first international conference on operational

research, at Oxford this week, were case studies as practical as that, though this was a conference for practitioners, not consumers: several of them might repay managers an hour or so with a wet towel. Most British managers have now heard of operational research, but are probably not sure what it does. It is easy not to be, since this co-operative application of the scientific method to the workings of business and other organisations is apt to push its elastic frontiers out round wherever it happens to stray: but many of the activities upon which its gaze happens to light benefit from its scrutiny. Some of the economies claimed from applying its findings are dramatic, and this does not always imply that the operation was inefficiently managed before: it is possible for “industrial mathematics” to throw up solutions (or uncover problems) that intelligent management alone could not.

Clearing the Fog

The American approach to operational research, as was evident at this week's conference at Oxford, differs significantly from the British: the experts from the United States were concerned more with the elaboration of its techniques, and with the study of large working systems in all their ramifications, than with the practical case studies and applications British speakers described. It would be pleasing, nationalistically, to infer that here is a branch of sciences that British industry is applying more fully than American. No useful comparison can in fact be made, but unfortunately there is room for suspicion that the very opposite is true, as it is of other kinds of industrial research.

More of the support for operational research in the United States, proportionally, may still be coming from defence and other government departments, and accordingly more of it may be done in universities and sponsored research institutes than is here. But some observers, at least, feel a more important difference is that American industry already employs in its normal middle ranges of management methods used to some of the approaches and techniques that in Britain have been left to the operational researchers to disclose to the industrial ken. It is certainly true that American industry has a far greater competence in using statistical methods in deciding the most profitable way to operate

its business. Economists, for example, exist there far beyond the confines of the information and forecasting department to which they are now being admitted in British industry, as practising technicians expected to bring their particular quantitative methods to bear on a problem beside those of other professionals.

If so, operations researchers may have a much bigger chance to penetrate industry in Britain than their counterparts in the United States and a more important job to do, providing they do not flourish the mystique too far. If some of what they get to do in Britain would be considered glorified work study in the United States, that only means work study here is too unsophisticated: let them refine its techniques. Certainly much of what is talked (and occasionally practised) under the name of “scientific management” in British industry suffers from woolliness of thinking and a preference for abstract nouns rather than quantities. One incidental role for operational research in British industry may be, along with other deflating agencies, to thin out the rosy verbal fog and stimulate hard thinking among middle management – as well as offering its own, more recondite mathematical approach to the functioning of productive organisations.”

The differences between American and British OR in this report sound as if Russ Ackoff had been interviewed. He repeated his observations in more depth in his papers **The Future of Operational Research is past** and **Resurrecting the Future of Operational Research** (The Journal of the Operational Research Society, Vol. 30, No. 2 and 3, February and March 1979).

The author is indebted to the late Hugh Miser who drew his attention to the report in The Economist during the 9th International Conference on OR in Hamburg, 1981. Hugh emphasized the condition (above), “providing they do not flourish the mystique too far”. The author reprinted the report of The Economist in DGOR Bulletin (No. 22, December 1981, pp. 8f), the newsletter of the German OR Society.

Heiner Müller-Merbach

University Kaiserslautern, IFORS President
1983 to 1985



ICORD-VI, Fortaleza

August 2007

ICORD-VI, the latest of the International Conferences in OR for Development, took place in the tropical surroundings of Fortaleza, Brazil during August 29-31. The series of conferences, which has run since 1992, aims to offer a space for the discussion of OR in the context of development. Previous conferences have been held at Ahmedabad and Jamshedpur (both India), Rio de Janeiro, Manila, and in the Kruger National Park (South Africa).

The rather modern city of Fortaleza with its gently curving beach made a glamorous setting for the Conference. But at second glance the problems of development were there to see – for example, poverty and pollution. The theme of the conference, as for the annual conference of the Brazilian OR Society SOBRAPO which ran alongside, was sustainable development.

The conference had 45 registered participants, and some 35 papers were presented, in addition to those of the invited speakers (see below). The majority of those attending were from the home country (repeating the pattern of previous ICORDs); but participants came from 4 continents and 16 countries.

Sira Allende (Cuba), Subhash Datta (India), Dania EHraqi (Egypt), Isaac Mbeche (Kenya), Helen Moshkovich (USA), Jonathan Rosenhead (UK), Theo Stewart (South Africa) and Arabinda Tripathy (India) all gave invited talks.

Topics ranged from how OR could improve public service delivery (Mbeche), through an account of how methodologies based on connectivity could help in the transformation of societies (Datta), to the use of OR tools in the Management of Cultural Heritage (EHraqi). But undoubtedly the high-point was the address by Professor Jorge Giordani, Minister of Planning and Development of Venezuela, and the most senior member of President Hugo Chavez' cabinet. His talk described the prominent role of OR's problem structuring methods in the ongoing transformation of Venezuelan society.

Financial support for ICORD-VI was given by IFORS, UK OR Society, and EURO, as well as CNPq (Brazilian Research Council) and CAPES (Ministry of Education), for which we are most grateful. IFORS is considering putting the ICORD conferences on a more regular footing, rather than the heroic improvisation which has previously been their basis. It is encouraging to know that there are currently 3 countries, each represented at Fortaleza, who are eager to hold ICORD-VII.

Jonathan Rosenhead

London School of Economics, UK



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INTERNATIONAL
TRANSACTIONS
IN OPERATIONAL
RESEARCH

Call for papers

Special issue on block action methods in nonlinear programming and feasibility

Block action methods in nonlinear programming and feasibility have been a standard in many areas of application as an alternative to classical optimization methods for general problems. Optimization models derived from inverse problems in image processing and reconstruction give rise to very large and sparse ill-conditioned mathematical problems where block treatment of the constraints is a necessity, allowing only the use of first order function information, as well as early stopping because of the ill-posedness. This is the case, for example, with ART, MART and their relatives in X-ray computed tomography, the Expectation Maximization Algorithm, RAMLA and OS-EM in Emission Computed Tomography. Other important related examples appear in geophysics, borehole electromagnetic geotomography, radiation therapy planning and nonlinear neural network training, where backpropagation type methods are also related.

Considering the importance of this large family of methods, *International Transactions in Operational Research* (ITOR) will publish a special issue on the subject, expected to appear in the beginning of 2009.

Articles on theoretical and practical aspects of block action methods will be welcome. The articles will be thoroughly refereed according to the journal standards and the deadline for the submissions is May 31, 2008.

Submissions and further inquiries should be sent directly to any of the Guest Editors in charge of this issue: Hugo D. Scolnik (hscolnik@gmail.com) Alvaro R. De Pierro (alvaro@ime.unicamp.br), Nélida Echebest (opti@mate.unlp.edu.ar), and María T. Guardarucci. (marite@mate.unlp.edu.ar).

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INTERNATIONAL
TRANSACTIONS
IN OPERATIONAL
RESEARCH

Call for papers

Special issue on cutting, packing and related problems

The purpose of this special issue is to encourage research dealing with cutting, packing and related problems. Case studies describing successful applications in practice are particularly welcome. Topics for this special issue include (but are not limited to) the following:

- Cutting and packing problems;
- Bin packing;
- Knapsack problems;
- Pallet and container loading;
- Nesting;
- Pattern sequencing;
- Layout problems;
- Multi-processor scheduling; and
- Integrated problems such as cutting and sequencing, lot sizing and cutting, routing and packing, etc.

The submission deadline is **April 30th, 2008**. Early submissions are encouraged. Papers will be sent for review as soon as they are received. Decisions will be made as soon as the reviewers' reports are received. The special issue will be published in **2009**.

Each paper will be peer-reviewed according to the editorial policy of ITO (http://www.blackwellpublishing.com), published by the International Federation of Operational Research Societies – IFORS.

Papers should be original, unpublished, and not currently under consideration for publication elsewhere. They should be prepared according to the instructions to authors that can be found at the journal homepage: <http://www.blackwellpublishing.com/submit.asp?ref=0969-6016>

Authors are strongly encouraged to send their submissions in electronic form (preferably a PDF file). Manuscripts should be emailed to any of the guest editors: Reinaldo Morabito (morabito@ufscar.br), Marcos N. Arenales (arenales@icmc.usp.br) and Horacio H. Yanasse (horacio@lac.inpe.br)

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IFORS Congratulates OR society of Japan on its 50th Anniversary



The Operations Research Society of Japan (ORSJ) celebrated its 50th anniversary during its national fall conference from September 26 to 28, 2007 at the National Graduate Institute for Policy Studies (GRIPS) in Tokyo. IFORS President Elise del Rosario was present to extend IFORS congratulations to all the members. With over 400 of its members in attendance, the conference featured 4 plenary talks and 125 papers in 7 parallel sessions. The plenary talks were given by Japanese luminaries from the academe, industry and political arena, namely: Tadashi Okamura, Yasuyuki Nanbu, Kiyoshi Kurokawa and Yukio Hatoyama.

Marking its 50th year of national and international involvement in the world of Operations Research, ORSJ featured two international sessions; the foundation of the Kondo Prize; the launching of the open electronic archives of ORSJ past journals, proceedings, and the OR Dictionary in the ORSJ website; the grant of support for the workshop organized by young researchers; and the publication of a series of textbooks on OR as well as a joint JORSJ/CORSJ special issue.

Apart from IFORS President del Rosario, the international session had INFORMS President Brenda Dietrich, former President of Operations Research Society of China Xiang-Sun Zhang, and former President of the Korean Operations Research and Management Science Society Sung Joo Park as speakers. Jiro Kondo personally awarded the Prize named after him – the first Kondo Prize – to Toshihide Ibaraki, Professor at Kwansei Gakuin University. Ibaraki was IFORS Distinguished Lecturer of the 2003 APORS conference in New Delhi.

After its foundation in 1957, ORSJ immediately joined IFORS in 1960. The first IFORS President from Asia, Takehiko (Bill) Matsuda of ORSJ, took office in 1973. ORSJ organized the seventh IFORS Triennial conference in Tokyo and Kyoto in 1975, the International Symposium on Mathematical Programming in 1988, and the 1994 Association of Asian-Pacific Operational Research Societies (APORS) conference in Fukuoka. For its 40th anniversary, ORSJ sponsored an international exchange program for young OR researchers from its sister societies within APORS and awarded a grant for the IFORS Prize for OR

in Development during the 1999 Triennial Conference in Beijing.

ORSJ officers have actively participated as IFORS Administrative Committee Vice Presidents, namely, Masao Iri (1982-1984), Toshiharu Hasegawa (1995-1998), and Tatsuo Oyama (2007-2009). Currently, ORSJ membership comprises almost 10 percent of individual members of IFORS.

Among the programs launched at this conference was the OR Dictionary 2007, edited in Wiki format and available in Japanese at www.orsj.or.jp/ORWiki.

The OR Archives, on the other hand, includes ORSJ articles published in the last 10 years in the JORSJ (Journal of the Operations Research Society of Japan), CORSJ (Communications of the Operations Research Society of Japan) and the Proceedings of National Conference (www.orsj.or.jp/~archive).

Elise Del Rosario
IFORS President

Search for the XIII ELAVIO Summer Institute IFORS Fellow

IFORS is pleased to announce its sponsorship of a participant to join the Summer School organised under the auspices of the Latin American Association of Operations Research Societies Summer School for Young Scholars (ELAVIO). The ELAVIO Summer Institute will be held in CHOSICA - Lima, the capital of the Republic of PERU, from 4 to 8 February 2008.

Sponsored by ALIO (Latin American Association of Operations Research Societies) and IFORS (International Federation of Operations Research Societies), the School is organised by the Faculty of System Engineering and the Faculty of Mathematics of the National University of Mayor de San Marcos - PERU (UNMSM), with the cooperation of the Faculty of System

Engineering of the University Inca Garcilaso de la Vega (UIGV).

The School will include mini-courses and tutorials, discussion panels, and conferences on advanced topics of research interest. The participants will have the opportunity of presenting their work. The main areas to be covered are: Heuristics, Metaheuristics,



Human-Machine Systems, an IFAC Symposium, Co-sponsored by IFORS

Mathematical programming, Multicriteria optimization and their applications in transport, environment, ports, agriculture, information systems, tourism and ecology. Additional information may be found at: <http://sistemas.unmsm.edu.pe/elavio2008/>.

IFORS will cover the participant's airfare from his/her country, while ELAVIO will provide the living expenses during the School.

If you:

- Have done work in the field of Heuristics, Metaheuristics, Mathematical programming Multicriteria optimization and their applications in transport, environment, ports, agriculture, information systems, tourism and ecology
- Are not more than 35 years old
- Come from a developing country
- Can present your unpublished work and answer questions in English
- Are highly recommended by your adviser in your area of work
- Can comply with the requirement to report on the outcome of the activity and how it has helped you in your work,

APPLY NOW!

Submit your curriculum vitae and a two-page abstract of the work you intend to present, together with a recommendation by your adviser on or before November 30, 2007 to:

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12245-970 Sao Jose dos Campos

Sao Paulo, Brazil

Submissions through e-mail are acceptable.

The selected applicant will be notified on December 14, 2007 at the latest.

Candidates from developing countries have some advantage in the selection.

The 10th IFAC/IFIP/IFORS/IEA Symposium on "Analysis, Design, and Evaluation of Human-Machine Systems (HMS)" took place in Seoul, Korea, 4 to 6 September 2007. The co-sponsorship of IFORS is a heritage of FIACC (see separate contribution).

The symposium was led by IFAC (International Federation of Automatic Control) and co-sponsored by IFIP (The International Federation for Information Processing), IFORS, and the IEA (International Ergonomics Association).

The emphasis of this symposium – No. 10 in the triennial series since 1979 – fell on the many links between technology and man, demonstrated in some 115 papers.

Four Plenary Papers were offered, beginning with a historic overview into the past 25 years of human-machine systems by Professor G Johannsen, University of Kassel, Germany. It was in mutual harmony with an outlook into the future by Professor D Zühlke, University of Kaiserslautern, Germany. Professor T Inagaki, University of Tsukuba, Japan, recommended "Smart Collaborations" based on "Mutual Understanding" between humans and machines. Finally, Professor E Hollnagel, Ecole des Mines de Paris, France, considered "Securing Safety" as a "New Mission of HMS".

Quite a few contributed papers were offered on driver support for automobile safety.

Another section was dedicated to the distribution of authority in human-machine systems (HMS). Empirical studies on the evaluation of human-machine interaction were presented. Principles of modelling were discussed. Human-Robot Interaction was another topic of concern, as was Interaction Technology and Interface Design.

The next symposium in this series will take place in Valenciennes, France, in 2010.

Even if the aspect of humans was emphasised, quite a few presentations and discussions were driven by a technological spirit. Aspects of leadership and humanism were rare. Even if technical intelligence dominated emotional intelligence and even if both dominated ethical intelligence, the openness to cross the borders between disciplines was obvious during the whole symposium.

Heiner Müller-Merbach

Universität Kaiserslautern, Germany

(Past-President of IFORS 1983/85)



The IFORS Prize for OR in Development, 2008

Call for Papers

Deadline for submissions, December 31, 2007

IFORS is pleased to continue the tradition of the IFORS Prize for OR in Development, to be awarded during the 2008 IFORS Triennial Conference to be held in Sandton, South Africa. A grand prize of US\$2,000.00 and a runner-up prize of US\$1,000.00 are on offer. Entries are automatically considered as formal submissions for publication in the International Transactions in Operational Research, an IFORS publication.

The Prize Committee welcomes all entries meeting the following criteria:

- The paper describes a practical OR application in a developing country, conducted to assist a specific organisation in its decision-making process, with original features in methodology or implementation.
- Principal authors and presenters are nationals of a developing country. While recognising that “developing country” is a fuzzy concept, the committee will consider the eligibility of an entry on the basis of the levels of economic, social and political development of the country, as well as the extent to which the practice of OR is embedded in its public and private sectors.
- If selected to be among the finalists, the entry should be presented by one of the principal authors during the 18th IFORS Triennial Conference in Sandton, South Africa on July 14-18, 2008.
- The paper includes some description of the application’s social context and its impact on the decision-making process or on the organisation for which it was conducted. Where appropriate, the relevance of the country’s state of development to the study is addressed. A focus on developmental issues will be an important factor in the judging.

Papers of a purely technical nature, or those which have no relevance to the developmental context, will not be considered.

- The paper should be written in English and its length should not exceed 25 pages (1½ spacing). Papers exceeding this length will be rejected. Electronic submission of Microsoft Word and PDF files are acceptable provided that:
 - » font type is Times New Roman at font size 12, and
 - » if requested, authors will be able to send a hard copy within one week of request.
- Papers which meet the preceding requirements will be evaluated for the Prize on the basis of problem definition, creativity and appropriateness of approach, MS/OR content, treatment of developmental issues, impact of the study, paper organization and structure and quality of written and (if selected as finalist) oral presentation.

All contestants may send by e-mail or by post, a copy (two copies, if by post) of their paper along with their names, affiliations, nationality, full mailing address, e-mail address, telephone and fax numbers to:

Professor Paul Fatti

Chair: IFORS-2008 OR for Development Prize
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Important dates:

- **Last day for submission of entries:** December 31, 2007
- **Acknowledgement of receipt:** January 31, 2008
- **Notification of finalists:** March 31, 2008
- **Presentation:** July 14, 2008

The Community as Poverty Alleviation “System”

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This case study explored whether viewing a particular community as a poverty alleviation “system” may highlight features of the functioning of the community in a way that enhances understanding and co-operation amongst role players and ultimately improves the effectiveness of all the individual efforts being made.

The Systems Analysis Framework developed for this project consists of the following phases:

- **Phase 1:** Describe the intervention (a la SSM’s Problem Recognition)
- **Phase 2:** Modelling (Perspective development: Technical, Organisational, Personal and Ethical)
- **Phase 3:** Stakeholders’ Evaluation
- **Phase 4:** Refinement (of the problem)

Researchers partnered with individuals from a community to develop a “bottom up” perspective of how communities, viewed as systems themselves, interact with designated, state poverty alleviation systems. The objective was to develop a perspective of the “organisational” status of the community (from a developmental point of view) using the above systems analysis framework.

The basis of the action research approach employed was that the community should be enabled to identify and manage their own challenges and solutions. It was envisaged that the output from this project could be used to engage with relevant government stakeholders as well as a wider



circle of Community-Based Organisations (CBOs) regarding their intended role in the community. Ultimately it would be of benefit to enable a constructive dialogue between the government stakeholders and a consensual community “voice” that could lead to an improved network of the different poverty alleviation systems (leading to an improved flow of resources, including information, between the different systems). The Systems Analysis Framework was employed as follows:

Phase 1 – Describe the status quo

Interviews were held with community leaders, CBOs and consultants that have done work in the community to establish individual views on:

- The major factors defining the landscape of poverty in K-town
- The major role players
- Designing and participating in a workshop to discuss the information emanating from the interviews.

Phase 2 – Modelling

Causal mapping was used to synthesise the personal perspectives gained via the interviews. A systems engineering approach was used to define the scope of the system. This included the network of interacting CBOs, the major governmental liaison/coordination bodies and the major social, safety, health, education and security government departments at City, Provincial and National level.

Phase 3 – Stakeholders’ evaluation

An Asset Mapping approach was used in a workshop with community leaders in order to assist the community to identify community organisational assets.

The causal map was presented to community leaders in a workshop. The issues raised in the maps were discussed with the leaders and they were asked to identify additional issues and correct misrepresentations.

Phase 4 – Refinement

The final phase of the community workshop was used to prioritise the issues identified via the causal map and the asset mapping exercise. The key issues were agreed upon and an action plan was developed.

Information gained from the interviews

The interviews gave the research team a glimpse into the dynamics of the community of K-town. There are many stakeholders operating in K-town ranging from government departments, CBOs, Non-Governmental Organisations (NGOs) and Private Businesses. Government departments are from all three spheres: national (e.g. police); provincial (e.g. welfare services), and municipal (e.g. health). The government departments create forums for interaction with the community such as the Community Policing Forum (CPF) and the Local Advisory Committee (LAC). CBOs operating in the area include faith-based organisations, sports bodies, education, community forums for different government departments, etc. The private business community mainly own shops and factories found in the area. As the different organisations operate independently to a large extent, a complex organisational terrain was observed.

Communication and co-ordination between organisational bodies are ad hoc and relies largely on individual members of these committees sitting on more than one committee. Informal networking by community leaders is currently the only way in which an integrated view of all government initiatives can be attained. The community also has different independent community structures (not aligned to the state forums) which are equally uncoordinated. The community structures can also bypass the forums that have been established by the government departments and interact directly with the said department.

Despite various attempts (by both state and community members) to legitimise and formalise interactions with community structures, the current situation is one characterised by power struggles, conflicting interests, duplication and confusion of roles. This is further exacerbated by government departments which increase community divisions through operating in districts that are demarcated differently across the different departments.

The socio-economic situation in K-town is afflicted by high rates of unemployment, crime, substance abuse, teenage pregnancy, and school drop outs. These combine to create vicious cycles that feed on each other

and keep people in perpetual poverty. However, a strong feeling that the community should not be living in poverty also emerged from the interviews. Some of the interviewees believe that the community has access to resources including funding, help in the form of community capacity building, and use of (currently empty) facilities. The community are unable to access these resources largely due to a lack of organisational capacity. Community fragmentation is blamed for most of these limitations.

Workshop

The overall aim of the K-town workshop was to use the Systems Analysis framework to explore the ways in which different anti-poverty role players interact in K-town.

Specific objectives for the workshop

The project team decided on the following objectives. The workshop should:

- Structure issues and prioritise them.
- Build capacity in the community to structure and tackle problems.
- Attempt to develop an integrated view of K-town as a poverty alleviation system. What are the organisations making a difference and how are they doing it?
- Have “something” continue. This “something” could be a way of structuring problems and assisting participating groups to identify and prioritise issues.
- Create awareness of the K-town “Poverty Alleviation System” as a system that (ideally) links individuals in the community to assets (e.g. organisations that could/should provide support to them). This will involve building up knowledge on what the official processes for accessing resources are (from the City of Cape Town, Provincial and National departments).
- End up with a sense of the participants agreeing on a process to address the identified issue(s), and then facilitate a follow-up workshop in a couple of month’s time to take things further.

The Community as Poverty Alleviation “System” (continued)

The workshop agenda

- Introduction, Project Overview & Framework
- Overview of Case study 1
- Breakfast
- Asset Mapping
- Causal mapping
- Discussion
- Priorities and Way Forward
- Lunch

Who was invited and why

The objective of the workshop was to get a “bottom level” perspective of how the community as a poverty alleviation system interacts with other poverty alleviation systems. Therefore, only leadership from CBOs were invited. Individuals were identified as key role players in the area of community development/poverty alleviation in their respective organisations. They were nominated from different sectors by the interviewees and community leaders. The different sectors included sports bodies, faith-based organisations, NGOs, community forums (CPF, Health, LAED, Education, LAC). There was awareness that, due to time constraints, the process of consultation was not exhaustive but that it could be viewed as a pilot process for future investigation in the community.

Asset Mapping

The concept of asset mapping was introduced via the pentagon of assets, which has the following categories: human, capital, physical, environmental and social. For the purposes of the workshop, only the organisational assets that the participants represented, as well as those that participants were familiar with, but which weren't actually represented, were mapped. The participants were required to:

- Name their organisation
- Give the objectives of the organisation
- Give requirements for the organisations to be able to perform their functions
- Indicate who they work with/link with to perform their functions.

The exercise concluded that there is a broad range of community assets within

the community, which can be used towards alleviating poverty. The next step would be to broaden and refine the asset map to include as many CBOs and NGOs that operate in K-town as possible. Thereafter this can be used as a basis to explore what the community could do with their assets, especially if they were all linked together.

Causal Mapping

A causal map of the issues and their inter-relationships was developed on the basis of the information which came out of the interviews. An attempt was made to focus on issues rather than individuals or specific examples and to phrase issues in terms of the positive outcomes desired.

The idea was to use the map as a starting point for discussions around identifying key issues in the area around which to develop a further agenda. It was also meant to be a way of reflecting back to the community the information that was gleaned from the interviews, partly so that the workshop could correct or endorse the presented view. The participants showed an interest in engaging with the contents and quickly gave the nod to most of the linked issues but also pointed out that many of the arrows could in fact be conceptualized to be bi-directional.

The discussion around the map very rapidly homed in on one particular section of the map. There are clearly a handful of individuals who are taking leadership roles in K-town and who take positions on more than one of the co-ordinating forums (Health, CPF, LAC, LAED) and who do so in a voluntary capacity. This can be viewed as an asset but also has the downside that while there appears to be a rich organisational structure in K-town, it is not well capacitated, resourced or supported, and in fact rests on relatively few individuals. It also means that the onus on these individuals to interact, communicate and strategise together is very high. These factors weaken the position of K-town community to access state resources as the NGOs struggle to meet the hurdles.

Whilst the richness of the issues may not yet be captured by the causal map as it stands, the few simple concepts that were

listed were sufficient to trigger an extensive discussion on the need for a co-ordinating body for development in K-town.

The workshop moved immediately to defining “the” problem (or voicing aspects and views thereof) and to attempting to articulate a possible way forward.

Summary of key issues raised at the workshop

- Lack of co-ordination across the different spheres of government operating in the area
- Lack of cohesion between the different NGOs/CBOs operating in the area (partly based on personal schisms and agendas)
- Lack of awareness in the community of funding that is provided at all spheres of government, i.e. National, Provincial and Local.
- Lack of organisational capacity in terms of knowledge of funding opportunities; as well as processes and procedures to access the funding
- Funding and training is available but the community is not positioned to access this (stringent criteria create barriers)
- Poor communication from the government departments about available resources
- NGOs/CBOs are present but they are unstructured which impacts negatively on their ability to access funding.

The main issue which was highlighted:

A structure in the form of a coordinating body is required that acts as a single point of entry to the community. The coordinating body should be a platform for leaders to speak about what is happening in the community and could also serve as a vehicle for all spheres of government to discuss and test new initiatives. The body could also be a source of information for the community and others.

This raised the questions: Should a new co-ordinating body be formed, or should an existing body be used more effectively? Who legitimises the coordinating body?

Power struggles are a fact of life in the community. The community has to find a way to deal with the fractures to get to a stable community structure. The haves and have nots needs to be able to cooperate. The leaders of the different co-ordinating fora in the community need to be able to co-operate and pull together. A new structure will not eradicate existing tensions and may create a further burden of meetings and administration.

Other concerns:

- Government creates a lot of red tape around the establishment and membership of coordinating bodies (the Community Policing Forum was cited as an example)
- Where will the money come from to support such a co-ordinating body? Will it require funding?
- Government's philosophy of participatory democracy should legitimate the democratic election of a body for coordinating the use of government resources.

Suggested models:

- Use the existing LAC structure but concentrate on making this forum more effective in terms of coordinating leadership in the community and using the state channels for resources.
- Create a new coordinating body where all the different portfolio's (Health, Security, Welfare, LED, etc.) are represented by their chairs.

In summary two major issues were identified:

- the community needs to find a way to deal with the fractures to get to a stable community structure and
- the community needs to define the type of coordinating body that will work for them.

In order to kick start the process it was agreed that community information and brainstorming session would be organised. The results of the workshop would be presented at this session and as many CBOs and NGOs invited to showcase their organisations and to contribute to a way forward for the K-town community.

ALIO

Asociación Latinoiberoamericana de Investigación Operativa (Latin-Iberia-American Association of Operations Research)

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First ideas of organizing an Operations Research Latin-American conference and creating a regional grouping were discussed in 1981 in Rio de Janeiro, Brasil, at the occasion of a Mathematical Programming Conference. The first CLAIO (Congreso Latinoiberoamericano de Investigación Operativa) and ALIO promoters were Andrés Weintraub from Chile, Nelson Maculan and Roberto Diéguez Galvao from Brasil, and Hugo Scolnik from Argentina. They realised that they had had the opportunity of meeting at "northern" conferences, mainly in USA and Europe, but that there was no OR regional event where people of the region could meet, present their work and interchange professional experiences. For most researchers in Latin-America it was (and still is) unaffordable to attend international conferences. It was important also to have a conference where Spanish and Portuguese were official languages together with English or French.

The first CLAIO was held in 1982 in Rio de Janeiro and ALIO was officially created during the conference. Initially members included 6 or 7 existing Latin-American OR societies and those of España and Portugal. People from some other Latin-American countries participated as informal contacts and were charged with the duty of distributing information about ALIO activities to the OR communities in their countries.

Some confusion surrounds the history of ALIO creation. Legend inside IFORS suggests that ALIO was created because of problems related to the 1984 IFORS triennial conference site, that was scheduled to be held in Buenos Aires. It was to be the first time an IFORS conference was going to be held in the southern hemisphere, and in Latin-America in particular. However, because of the Malvinas war in 1982 between Argentina and the United Kingdom, IFORS authorities decided to move the conference to USA. This upset numerous Latin-American participants at the first ALIO meeting in 1982, who supported Argentina's position. However, the decision of creating ALIO was taken earlier and with the previous mentioned goals. An IFORS triennial conference was finally held in Buenos Aires in 1987.

CLAIO's have turned out to be very successful and the number of papers and attendants have grown constantly. The conference has been held each two years since its inception in the following cities:

- 1982, Rio de Janeiro, Brasil
- 1984, Buenos Aires, Argentina
- 1986, Santiago de Chile
- 1988, Rio de Janeiro, Brasil
- 1990, Buenos Aires, Argentina
- 1992, Mexico DF
- 1994, Santiago de Chile
- 1996, Rio de Janeiro, Brasil
- 1998, Buenos Aires, Argentina
- 2000, Concepcion, Chile
- 2002, Mexico DF
- 2004, La Habana, Cuba
- 2006, Montevideo, Uruguay
- 2008, to be held in Colombia
- 2010, to be held in Argentina jointly with INFORMS meeting.



ALIO

Asociación Latinoiberoamericana de Investigación Operativa (Latin-Iberia-American Association of Operations Research) (continued)

Since 2000 a selection of papers presented at each CLAIO have been published in journals such as the Annals of Operations Research, Journal of Heuristics, Journal of Industrial and Management Optimization and others.

Another important activity of ALIO is its summer school, ELAVIO's (Escuela Latinoamericana de Investigación Operativa) that has been held every year since 1994. They are aimed at PhD students and young researchers. Tutorials and conferences are presented and the participants have the opportunity of presenting their work in the form of short communications.

In recent years, thanks to agreements with EURO and CORS (Canadian Operations Research Society), a PhD student is selected by each of the organisations to participate at ELAVIO. IFORS also supports ELAVIO with funds for supporting traveling expenses of a lecturer and two PhD students from outside the region, giving priority to candidates from developing countries.

ELAVIO has proven to be very successful not only because it gives students access to up to date themes, but also for establishing collaboration between young people and professors of the region. ELAVIO's have been held in:

- 1994, Punta de Tralca, Chile
- 1995, Mendes, Brasil
- 1996, Bariloche, Argentina
- 1997, Montevideo, Uruguay
- 1998, Viña del Mar, Chile
- 1999, Mendes, Brasil
- 2000, La Habana, Cuba
- 2001, Viña del Mar, Chile
- 2003, Vaquerías, Córdoba, Argentina.
- 2004, Montevideo, Uruguay

- 2006, Valle de Leyva, Colombia
- 2007, to be held in February in Petrópolis, Brasil.

To date, ELAVIO's have mostly been held at the south of the region, and with the exception of the last one held in Colombia, participation consisted mainly of students from the southern countries. It is expensive to travel between distant countries in the region and it is very difficult for young participants to get financial support for their travel. Between Argentina, Uruguay, Chile Brasil, air fares are cheaper and often participants are also able, in spite of long distances, to travel by bus or by car.

A journal edited by ALIO, Investigación Operativa, has also been published from 1986 to 2000 (editions from 1996 to 2000 can be downloaded through the ALIO website). The goal was to have a world class journal and "to promote the integration, publication and dissemination of work in OR conducted within Latin-iberian-american community. However the journal welcomes original or relevant work coming from any other country. The editors hope to be able to maintain an equilibrium between theoretical and practical work in OR in all fields of human activity..."

Another initial goal was to facilitate the publication of papers in Spanish and Portuguese (besides French and English that were also accepted). After some time, however, this position had to be reviewed and editors have decided to publish articles only in English, mainly due to difficulties getting the journal internationally recognized. In 2000, the journal unfortunately had to be discontinued because it was not possible to maintain anymore. During its existence the

journal was supported mainly through funding from Brazilian agencies, and the personal efforts of its editors, in particular Celso Ribeiro. Through an agreement with IFORS it was decided that the journal would become part of ITOR (International Transactions of Operations Research) published by IFORS, and Celso Riberio was designated as ITOR editor for Latin-America.

During the early years, ALIO activities involved mainly contributions from the south of South America, but the participation from the entire region have since increased consistently. In some countries there is no formal society, but the OR community participates actively in ALIO activities, including organising conferences as in the case of Uruguay. During the last 20 years, OR societies participating in ALIO have come and gone, with new ones replacing obsolete societies, as was the case in Colombia. The part of the region with the lowest involvement in ALIO is Central America, but corrective actions are being taken to address this situation. Costa Rica participated in the last CLAIO in Montevideo and at the ALIO meeting held at that occasion.

The main success of ALIO has been to help grow an OR community in the region that is now permanently in contact, performing joint projects and research, interchanging visiting professors and PhD students, etc.

More details about ALIO activities can be found at the ALIO website, hosted at Universidad de Buenos Aires: www.dc.uba.ar/alio.

