Newsletter

1991 GENERAL ASSEMBLY

Last March 16, 1991, some 55 Operations Research enthusiasts and practitioners gathered at the Case Room I of the Asian Institute of Management for the 1991 ORSP General Assembly.

ORSP President Philip Fondevilla enumerated the organization's 1990 activities and the 1991 action plan. He also presented the results of the recent survey on the state of Operations Research in the Philippines.

The organization was privileged to have two distinguished Operations Research practitioners as guest speakers during the occasion.

Prof. Enrico C. Angtuaco, a management consultant and professor at the Asian Institute of Management, talked about the Managerial Applications of Operations Research in the Philippines. He presented an application using a combination of simulation and linear programming, with a brief demo of the simulation software which he developed for the said project. He also discussed various studies which he made for some of the country's biggest corporations utilizing other Operations Research techniques.

The other speaker was Dr. Cesar G. Tapia, an Associate Professor of the Department of Mathematics, University of the Philippines. He presented a Multi-Objective Mixed Integer Linear Programming technique for Multiple Projects Selection using an actual capital expenditures prob-

ORSP HOSTS ICORMS '90

ICORMS Chairperson Elise del Rosario, ORSP President Philip Fondevilla and ORSP Secretary Bong Nuqui with the ICORMS plenary speakers.

ORSP accomplished a first in the field of Operations Research and Management Science in the Philippines when it hosted the 1990 International Conference on Operations Research / Management Science (ICORMS) at the Philippine International Convention Center last December 11 - 14, 1990. Through the efforts of the ICORMS organizing committee chaired by Elise del Rosario of SMC and ORSP President Philip Fondevilla of PLDT, the Society succeeded in bringing to Philippine shores some of the best and biggest names in the field of OR/MS in the world.

The speakers and their topics were: Prof. Mordecai Avriel (Israel) - OR Applications in Finance; Mr. Donald Creswell (USA) Benefits of Decision Analysis; Prof. Crisostomo Garcia (USA) - OR in Economics; Prof. Mario Tabucanon (Thailand) - Multi-Criteria Decision Making; and

Prof. Stanley Zionts (USA) - MCDM Applications.

A total of 155 OR practitioners and enthusiasts from 13 countries attended the Conference, and all were treated to fine lectures by the foreign guests, and to an array of interesting technical papers.

Thirty-five papers were submitted for presentation by 74 authors from 15 countries including the Philippines. The papers were divided into 13 classifications: Design and Manufacturing, Facilities Planning, Finance, Food and Agriculture, Inventory Management, Power and Energy, Scheduling, Statistics, Techniques and Methodologies, Telecommunications, Territorial Planning, Transportation and Water Resources Management. These papers were presented in two parallel tracks during the first three

ICORMS, from page 1

days of the Conference.

Among the papers presented by local delegates were OR applications at big local companies like PLDT and San Miguel Corp., which were, incidentally, two of the Conference's sponsors.

The Conference's opening ceremonies was highlighted by a keynote address by Mr. Delfin C. Gonzales, Jr.- SVP and Chief Finance Officer of San Miguel Corporation - who talked about the contribution of OR to the growth and success of SMC over the years.

On the last day, ORSP hosted a banquet night for all the delegates, where they were treated to a barrio fiesta -inspired dinner with entertainment provided by the PCVC dancers and rondalla.

With the resounding success of ICORMS '90, it would perhaps be remembered as the biggest event yet in ORSP history.

ICORMS '90 sponsors were: San Miguel Corporation, Philippine Long Distance Telephone Co., Philippine Airlines, Department of Science and Technology, Coca-Cola Bottlers (Phils.), Inc., SAS Institute LTD., Dept. of Foreign Affairs, and the Philippine-American Association of Scientists & Engineers.

Members of the Conference Committee who oversaw the 4-day conference are : Elise del Rosario, Committee Chairperson (SMC); Leonida T. Africa (DLSU); Gilbert P. Azagra (Meralco Foundation); Elwyn R. Borromeo (Purefoods Corp.); Marino B. Castaño (NAPOCOR); Felipe L. Fondevilla (PLDT); Federico M. Macaranas (DFA); Flordeliza S. Melendez (DOST); Ceres O. Noble (PAL); Honesto G. Nuqui (UP); Purba Rao (AIM); and Elvie A. Zamora (UP).

GENERAL, from page 1

lem.

Another highlight of the General Assembly was the awarding of trophies, medals and cash prizes to the winners of the First Operations Research Quiz and Term Paper Writing Contest.

OR IN PRACTICE

BUILDING A SCHEDULING MODEL

Reprinted from *On Optimum Scheduling, or Beer Trucks, Second Clarinets, and Carls by Gene Woolsey, Interfaces, August 1980*

How to Do It Dead Wrong

The usual approach to satisfying corporates' demand for a supreme scheduling model for the manufacturing division goes as follows. First, the corporate OR/IE/MS *gruppe* receives a request (command?) to "go down there and help those people out." The only trouble with this request is that when you appear "down there" you immediately find out that they think that they don't need any help (and they *know* they don't need any from you!) You now have a sticky choice indeed. You can go back to corporate and ask for reinforcements. All this will accomplish is a change from mildy amused acceptance to open hostility. Or you can do something *really* stupid, tell them you are there because corporate thinks they have a problem. If you are just down there trying to justify your job as a staff man, everybody understands. But if you are down there as the corporate gunslinger, that is quite another matter.

How to Do It Dead Right

The first thing that you do is make jolly sure that the scheduler benefits by having the scheduling model. If he doesn't want any part of it, the best

DECISION-MAKING SOFTWARE AVAILABLE

A Multi-Criteria Decision Making software using Aspiration Level Interface Method (AIM) is now available at the ORSP secretariat. The package consists of a 5.25-inch diskette and a user's manual.

The software was developed by Vahid Lofti, Ph.D, a professor at the University of Michigan Flint and by Stanley Zionts, Ph.D, a professor at the State University of New York at Buffalo and a plenary speaker at the ICORMS '90.

The software operates on an IBM PC (or compatible) or a PS/2 with a minimum of 512K RAM and at least one disk drive. It requires no graphics capability and it can be used on a machine with either a color or a monochrome display. The use of a .color display is, however, highly recommended since portions of the solution process display screens have been color-coded for better presentation. It also requires a Disk Operating System (DOS) version 2.1 or higher. It can also be installed on a hard disk for a substantial improvement in program performance.

For more information on this package please contact the ORSP Secretariat at telephone number 632-34-08.

thing to do is *walk away from it*. I know that this is hard to do, but you must face the fact that if they don't want the help, they *just may give you some problems*. The next question that always come to me from OR/MS group heads when I say things like this is: "But what will I tell the big dog at corporate who wanted us to *do* something ?" The answer is easy: tell him that after careful study, you decided that they were doing a super job, and any improvement that your group might make would not be justified by the concomitant cost. Once he gets over the initial shock that the whiz kids

THE PRESIDENT SPEAKS . . .
Felipe L. Fondevilla

THE STATE OF OPERATIONS RESEARCH IN THE PHILIPPINES

During the closing ceremonies of our highly successful ICORMS '90, I presented to the Conference delegates results of the survey which ORSP conducted regarding the state of OR in the Philippines. The survey results confirmed our society's belief that it is timely, and that there is indeed a great need, to hold a conference of such magnitude in a developing country like ours. The conference gives the much-needed impetus that OR deserves as a tool for decision-making in various fields of public and private enterprises.

I would like to present here the methodology and detailed results of the survey. Mail questionnaires were sent to the personnel managers of almost a thousand companies in the country. These companies were selected from the list of the top 1,000 corporations representing the service, banking, utility, merchandising, life insurance and transportation sectors.

From these, only 77 responded, mostly manufacturing and service companies. Out of these respondents, 51 (66%) reported having used OR in their operations or decision-making. However, only 18 (23%) of these 51 companies have a formal or established OR department (or its equivalent) that is mainly engaged in OR activities. This figure only shows that the importance of OR in a business organization is not fully appreciated and recognized yet in this country, as could be traced from the various reactions of the respondents about OR (see latter part of this article).

It is interesting to note that of the 18 companies with OR departments,

8 were established between the period 1970 to 1980. The rest were established between 1981 and 1990, representing a 25% growth rate over the last decade.

Furthermore, the survey revealed that majority of these departments report to the company president, vice-president or general manager. It is surprising to note that the OR departments are considerably big - an average of 19 personnel per department, made up mostly of Engineering, Management, Mathematics and Computer Science graduates. The average age of an OR analyst is 28; while the average OR work experience is 4 years out of the 6 years average tenure in the company.

Statistical analysis, economic analysis, PERT/CPM, inventory models and linear programming are the most widely-used techniques. Majority of the functional problems where OR is applied include Inventory Planning and Control, Capital Budgeting, Demand Forecasting, Procurement and Purchasing, and Manpower Planning. It was also noted that the computer and most of the commercially available OR softwares are used in the majority of the projects reported. With regard to the degree of success in the implementation of these projects, the survey revealed a surprisingly high 70% implementation rate, considering that awareness in the importance of OR is not yet high in the country. Factors reported as contributory to the non-use of OR or non-implementation of OR recommendations include: lack of understanding and awareness in the use of OR; financial constraints; factors external

to the organization such as political and economic situations; lack of qualified personnel; and the notion that OR approach is too theoretical/ideal.

The following are some of the reactions solicited from the respondents concerning the practice of OR:

"There is an increasing need to adopt OR in almost all types of organization to guide management in their decision-making";

"OR needs to be presented in all sectors throughout the country";

"The practice of OR will enhance the efficiency and viability of business management";

"OR is needed to professionalize the operations of manufacturing systems, standardize procedures and make technical people more easily adaptable from one job to another";

"For service organizations, OR can be used in streamlining procedures, improving customer service and regulating manpower cost";

"The practice of OR in the Philippines is a must, considering that most industries make the best out of limited resources";

"We should foster OR not necessarily as a separate discipline but as a way of thinking integrated with major company functions".

In contrast, others claimed that:

"The main problem is the availability of data required for OR studies. Sometimes, it becomes a very tedious job to gather data at the least possible time";

"Another is the availability and limitations in computer hardware and software required";

"There are some managers who are not aware of the OR tools and

PRESIDENT, from page 3

techniques and this make them less receptive";

"Non-practice of OR in the Philippines could be attributed to inadequate exposure of managers to such technique and lack of information campaign on practitioners";

"Awareness level is low in general. There are very few practitioners relative to other areas of IE such as Methods Engineering. Computer capability and interactive environment to support widespread application are not in place";

"The high acceptability of OR practice in the Philippines still has a very long way to go because of lack of required expertise and the database requirements of models."

From the above, one could see the sad state of OR in the country. One could see the need for a coordinated effort on the part of the government and institutions like ORSP to promote the awareness and use of OR in the academe and in the private and public sectors. The holding of ICORMS '90, the 1st Inter-Collegiate OR Quiz and the OR the Term Paper Writing Contest are indeed steps in the right direction.

As president of the ORSP, I would like to express in behalf of the organization our deep appreciation for the sincerity and candor of the OR practitioners in the Philippines in sharing their reactions about the present state of OR in the country, and the directions which we should pursue. I would like to assure each and everyone that ORSP will take the challenge. We are counting on the full support of the academe, the different sectors of our society and our international friends who, we hope, will unselfishly share their expertise and resources in the name of science and progress. The process is tedious and intricate but I know our collaborative efforts will ensure success.

OR, from page 2

admitted that they might not be able to improve everything; he will appreciate your honesty and humility. I also might add that it will not take long for your comments to reach the ears of the subsidiary's vice president (particularly if you send him a copy of your memo to the corporate biggy). He will be tickled pink that for once, the corporate whiz kids thought that the production people had their heads on straight. He might even surprise you with an offer to "Come and take a closer look" at this or some other problem.

But let's say that, for some strange reason, the scheduler would *like* some help. The first assumption we must make is that the scheduler probably doesn't want to be replaced. Now I realize that some of my readers will feel put upon that I should have to mention it, but people really get their backs up if you imply that they can be totally replaced by a computer. One of the first things I teach my students is never to say "computer system," but rather to say "computer-*assisted* system." People who will fight you to the wall if you suggest a "computer system" to "help" them will fall all over themselves to help you install a computer-assisted system. This is because a computer-assisted system implies that *they* are needed, and have something to contribute. The real secret here is that all scheduling systems have, with rare exceptions, a great deal of "dog work." This is work that has to be done filling in detailed forms with pencil of pen, or making detailed calculations using either an adding machine or a hand calculator. It should be perfectly obvious that the correct way to proceed is to write interactive computer programs that simply take out all of the dog work from whatever it is the scheduler does. Further, this can only be done by an analyst who has spent sufficient time with the scheduler so that, if the scheduler took a day off, the analyst

ORSP HOLDS SECOND SYMPOSIUM/ TECHNICAL SESSION

ORSP held its second symposium/technical session for the year last August 23, 1990 at the Elk's Club, 7th floor, Corinthian Plaza, Paseo de Roxas, Makati, Metro Manila.

The said symposium, which drew a fairly large number of participants from the business and government sectors, academe, and general membership, was part of the ORSP program of activities for 1990-91. It was highlighted by two lectures on Operations Research and an OR software package presentation by SAS Institute Ltd.

Prof. Leonida T. Africa, Vice President for Academic Programs of De La Salle University, talked about "The Gap Between OR Theory and Practice." The talk centered on the lack of synchronicity between the academe's program on Operations Research and OR as applied in the business and government sectors.

On the other hand, Mr. Lowell L. Lorenzo, Department Head for Special Projects of Philips Components, presented a technical lecture on actual OR application with his "Matching Algorithm for a Typesplit Problem."

SAS Country Manager Mr. Eric Bergara presented a demo of their new OR software for Project Management and Resource Allocation. The demo was actually complementary to a similar SAS demo on OR software conducted in a previous ORSP symposium.

ORSP President Philip L. Fondevilla presented the speakers with plaques of appreciation for their contribution.

1991 GENERAL ASSEMBLY

ORSP President Philip Fondevilla talks on the state of OR in the Philippines.

Dr. Cesar G. Tapia of UP Diliman receives a plaque of appreciation for his talk on MOMILP.

ORSP STUDENT CHAPTERS

Ateneo de Manila University.

Prof. Enrico C. Angtuaco of AIM presents a managerial application of OR.

Adamson University.

OR
QUIZ WINNERS

OR TERM PAPER WRITING CONTEST WINNERS

FIRST PLACE: *University of the Philippines*

FIRST PLACE: *De La Salle University*

SECOND PLACE: *De La Salle University*

SECOND PLACE: *Ateneo de Manila University*
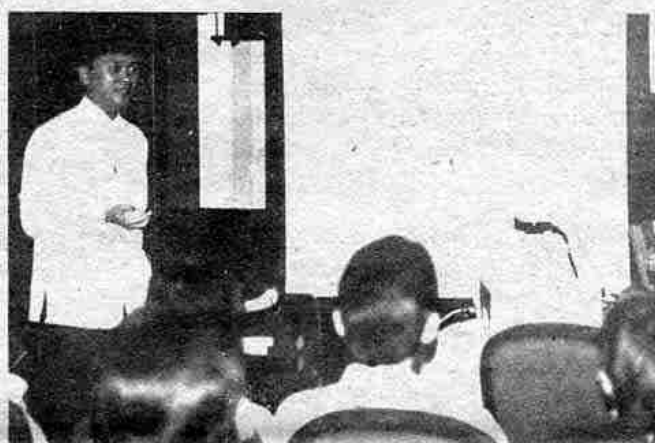

THIRD PLACE: *Ateneo de Manila University*

THIRD PLACE: *Holy Angel University*

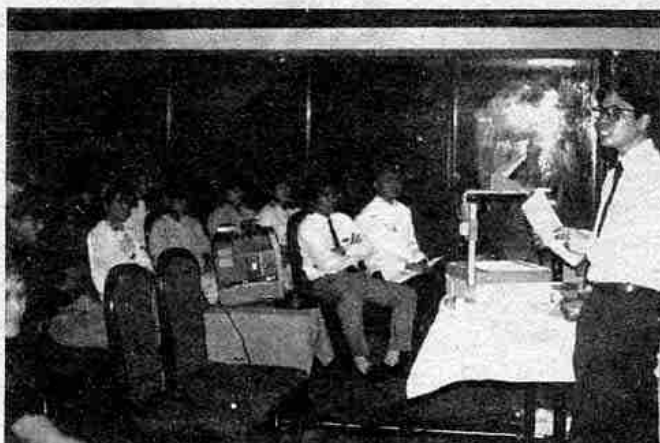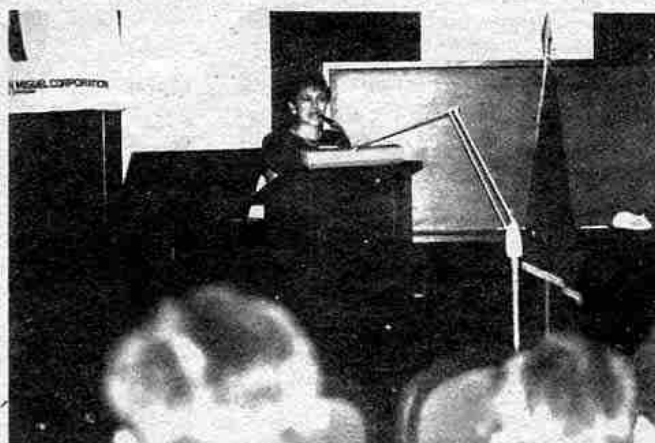# 1990 SYMPOSIUM HIGHLIGHTS

Prof. Leonida Africa of DLSU talks about The Gap Between OR Theory and Practice.

Mr. Eric Bergara of SAS Institute, Ltd. presents a demo of an SAS OR software.

Mr. Lowell Lorenzo of Philips Components presents an OR application — Matching Algorithm for a Type Split Problem.

Ms. Elise del Rosario gives a short talk.

ADAMSON UNIVERSITY FORMS ORSP STUDENT CHAPTER

Last January 30, 1991, ORSP inducted the officers of the Adamson University ORSP Student Chapter at the University's St. Theresa's Auditorium in San Marcelino, Malate, Manila. The Adamson University chapter is actually the second Metro Manila - based ORSP student chapter, and the third in the country (the first two being the Holy Angel University of Pampanga and the Ateneo De Manila University chapters).

ORSP President Philip L. Fondevilla of PLDT acted as the inducting officer and guest speaker. The induction program included a demo of the LP87/88 and MILP87/88 software by Mr. Noel Alcasabas of PLDT.

The Adamson University Student Chapter has 43 founding members, made up mostly of 4th and 5th year BSIE and BSBA students. The officers who were inducted into office were: Elnora T. Lucero, President; Venerando D. Vite, Internal VP; Ma. Belinda SG Jinang, External VP; Roselyn A. Torres, Secretary; Dennis S. Chua, Treasurer; Thya Tan, Auditor; Evelyn J. Loyola, PRO; and Ma. Lorena G. Paguia, Business Manager.

DLSU WINS OR TERM PAPER WRITING CONTEST

De La Salle University grabbed the top prize in the recently-concluded First Inter-Collegiate OR Term Paper Writing Contest, which ran from November, 1990 to February, 1991. The contest, which is part of ORSP's commitment to promote the study of OR/MS in the academe, was participated in by five universities.

Adjudged as best entry was DLSU's "Systems Study on Advanced .

DLSU, from page 7

Logic Technology's Market and Rental Loss" by Jocybel Adriano, Dennis Beng Hui, Richard Li, Angelo Lim, Raul Miranda, and Mario Padilla. Mr. Edgar de Castro acted as the group's adviser.

The second best entry was Ateneo de Manila University's "Study on the Faculty Development of the Ateneo De Manila University" by Jie Josef, Dennis Encarnacion, Vince Uba and Neil Villaverde. Their adviser was Ms. Mary Ann Vistro.

Holy Angel University's paper on the "Application of Linear Programming in Commercial Scheduling" was adjudged as third best. Ms. Alda Punzalan was adviser to the group of Angelo Avila, Roselle Sicat, Jocelyn Tanglao, Lorena Siapengco and Myline Pangan.

Three distinguished figures in the field of Operations Research comprised the board of judges for this contest. Dr. Purba Rao, a Professor at the Asian Institute of Management, acted as the chairman of the board of judges. She was joined by Mr. Eduardo B. Ledesma - PLDT Assistant Vice President for Management Services and Mr. Albert Villadolid - Finance and Administration Manager of Abacus Dist. (Phils.) Inc.

Cash Prizes of P 1,200.00, P1,000.00, and P 800.00, were given to the first, second, and third prizes, respectively. Trophies were awarded to the students while their advisers received plaques.

All prizes were awarded to the winners during the 1991 ORSP General Assembly held at the Asian Institute of Management last March 16, 1991.

The OR Term Paper Writing Contest was made possible through the efforts of the organizing committee composed of Mr. Noel P. Mojica

(Chairman), Mr. Noelito I. Alcasabas, Ms. Mona D. Lazatin, and Ms. Excelsis S. Magno. Sponsors of the Contest were: Roxas and Company, and Colgate - Palmolive (Phils), Inc.

UP-DILIMAN TOPS 1ST NATIONAL INTER-COLLEGIATE OR QUIZ

ORSP launched last year the first-ever Inter-Collegiate OR Quiz in the Country, as part of its commitment to promote the study of Operations Research in the academe and to foster fellowship and camaraderie among student chapters.

Five schools, namely: Ateneo De Manila University, De La Salle University, Holy Angel University of Pampanga, New Era College, and University of the Philippines vied for the three final slots in the quiz' elimination round last January 26, 1991 at the UP-CBA Building in Diliman.

UP, along with Ateneo De Manila and DLSU, topped the elimination round, thereby setting the stage for the finals. The final round held last February 9 at the same venue saw a see-saw affair between the three schools. At the end of the regulation round of the finals, UP and DLSU finished with 199 points apiece, thereby necessitating a clincher question to determine the champion.

Both schools failed to answer the first clincher question, but Romeo Ines finally clinched the championship for UP when he correctly answered the second clincher question.

The final team standing, team composition and scores registered in the finals are as follows:

Champion: UP - IE/OR Dept."
Score: 199.33 points
Adviser: Ms. A. C. Matias
Team Members: Armando Reyes

Romeo Ines
Patricia Tan

* wins via the clincher question

1st Runner - Up: DLSU - 199.33 points
Adviser: Mr. A. C. de Castro
Team Members: Richard Li
Juraine Pimentel
Johnny Chua

2nd Runner - Up: AdMU - 186.33 points
Adviser: Ms. M. A. Vistro
Team Members: Misael Hilario
Mylene Concio
Edna Zagala

Dr. Norberto R. Navarette, Jr. of UP - Los Baños acted as chairman of the Board of Judges, with Dr. Errol Perez of UP - Diliman and Mr. Adriano Solis of Philips as members of the board. Mr. Diosdado Engbino of PAL, an ORSP board member, acted as the quiz master.

Major sponsors of the quiz were: The Philippine Long Distance Telephone Co., Jollibee Food Corporation, San Miguel Corporation - Magnolia Division, Roxas and Company, Colgate-Palmolive Phils., and UP - College of Business Administration.

OR, from page 4

could replace him without disastrous results. The typical OR/MS manager will argue that he cannot spare the time (it might take *months*) for his analyst to know what is going on well enough to replace the scheduler. With due respect, that manager has just told me that (a) his analyst's time is more important than the time of the scheduler, and (b) he isn't willing to have any time spent in learning the business. With those attitudes the manager *should* be fired, but the result is that he will probably die as an OR/MS group leader, having blown his chances for greater things.

IFORS NEWS

FUTURE AGENDA: TELL THE WORLD

Reprinted from OR/MS Today, February 1991

William Pierskalla, chairing a workshop on "Strategies for OR Societies and IFORS" held during IFORS XII in Athens, challenged the international federation members to "communicate and to promote operations research to the world."

Pierskalla, IFORS president, opened the workshop by noting the goals of IFORS and then asking what IFORS can and should be doing in the decade ahead.

The goals of IFORS as outlined by Pierskalla:

1. Sponsoring of international conferences and meetings.
2. Providing other means for the exchange of information on operational research among nations.
3. Encouraging the establishment of national operational research societies.
4. Maintaining standards of competence in operational research.
5. Encouraging the teaching of operational research.
6. Promoting the development of specific parts of operational research and encouraging the development of new fields.

"For more than 30 years, IFORS, as an organization of 38 member societies, has strived to achieve these goals," Pierskalla said. "In some instances, there have been major successes such as IAOR and the

ORSP's Elise del Rosario (second from right) and IFORS President William Pierskalla (seated, second from left) pose with APORS (Asia Pacific Operational Research Societies) representatives from Australia, New Zealand, Peoples Rep. of China, Japan, Korea, and Malaysia during the IFORS Triennial Conference.

Triennial Conference and the many individual initiatives in specific countries. On the other hand, IFORS' record is not as strong regarding the promotion of OR in the LDCs (less developed countries) or in developing new fields.

"Now is an appropriate time to begin thinking strategically and operationally about IFORS' future," Pierskalla continued. "This workshop was designed to ask: What should IFORS be doing? Traditionally, IFORS has taken a largely reactive role in seeking to achieve its goals. Indeed, few OR practitioners and researchers know what IFORS is. IFORS can and should be doing much more to communicate and to promote OR to the world."

With that, the workshop was opened for discussion, a discussion which touched on many topics ranging from publications to

meetings to services for member societies.

Some topics covered:

.. An international informational publication to disseminate a synopsis of the "best work of OR" in the world, summaries of software and of content areas in OR, information about what members and member societies are doing and planning to do, information on worldwide employment opportunities, etc.

.. Specialized conferences on timely topics of emerging interest to members of the worldwide OR community and related communities.

.. Compose available lists of retired OR persons who would be willing to act as

ANNOUNCEMENTS

OR JOURNAL. The editorial staff of the Philippine Journal of Operations Research, headed by Mr. Manuel M. Agustin of SMC, has been working round the clock in preparing the second issue of the journal. It would be remembered that the first issue was successfully launched last year. For this year's issue, the editorial staff is planning to compile some of the papers presented by local delegates in the recently-concluded ICORMS '90, along with several new and unpublished works. The staff is hoping to have the journal issued before the end of May.

ORSP DIRECTORY. The general membership directory that ORSP is trying to come up with has not yet been finalized, as there are members who have not yet submitted their pictures. Please send your 1" x 1" pictures to:

Mr. Crispin M. Cajuguiran
c/o Operations Research Dept.
PLDT Co.
R. Cojuangco Bldg.
Makati Avenue, Makati, Metro Manila
Tel. 817-74-67

CONTRIBUTIONS/INQUIRIES. Contribution of any article, paper or information regarding Operations Research would be highly appreciated. For any inquiry regarding ORSP, write or call:

ORSP
c/o OR Department
San Miguel Corp.
40 San Miguel Ave.
Mandaluyong, M.M.
Tel. 632-34-08

IFORS SURVEY. The Industrial Engineering departments of the University of the Philippines, De La Salle University, Ateneo de Manila University, Lyceum, Mapua Institute of Technology, University of Santo Tomas, Adamson University, National University and Holy Angel University are requested to send immediately the accomplished IFORS survey forms to either the PLDT or SMC address of ORSP.

ORSP BOARD UPS MEMBERSHIP FEE

As OR practitioners, ORSP members know that the value of an objective function can be improved if the available resources are increased. This is exactly what the ORSP Board had in mind when they recently approved the increase in membership fee from P200 to P250.

With the increase, each member would now be entitled to the following privileges:

1. Newsletters
2. ORSP ID (credit card type)
3. ORSP Directory
4. ORSP ballpen and cube stationery
5. ORSP pin
6. Discounts (Journal, symposia, assemblies, etc.)
7. ORSP Xmas party subsidy

More importantly, the increase in membership fee would provide ORSP with additional funds that would help defray the costs of holding symposia, technical sessions, etc. and printing costs. There is also a plan to hire a full-time employe for the ORSP Secretariat.
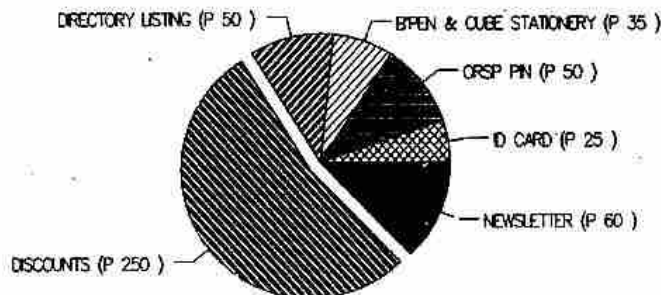
Members are invited to renew their membership for 1991. For details, please call telephone no. 632-34-08 or 817-74-67.

consultants or researchers to persons, firms or governments from LDCs or elsewhere.
.. Establish a directory of OR educational programs.
.. Be a catalyst for initiating student exchange programs in the world. The idea was that IFORS could be an initial broker between and/or among colleges

WHAT IS THE ORSP MEMBERSHIP FEE WORTH?

DIRECTORY LISTING (P 50)
BPEN & CUBE STATIONERY (P 35)
ORSP PIN (P 50)
ID CARD (P 25)
NEWSLETTER (P 60)
DISCOUNTS (P 250)

Operations Research Society of the Philippines
Funds Position From March 31, 1990 – March 15, 1991

MEMBERSHIP FEES		P 18,700.00
ADVERTISEMENT		
PLDT	P 4,000.00	
DLSU Graduate School	3,000.00	7,000.00
1990 GENERAL ASSEMBLY		210.00
DONATION		
PLDT	P 38,000.00	
Roxas Company	2,000.00	
Colgate Palmolive Phils.	6,000.00	46,000.00
BANK INTEREST		2,220.25
FEES		
Induction	13,435.00	
Symposium	2,625.00	
Student Chapter	400.00	
OR Quiz	1,500.00	
ICORMS	111,134.66	129,394.66
TOTAL REVENUES		P 203,524.91
LESS:		
Food and Drinks	P 20,800.28	
Advertisement	12,930.00	
OR Quiz Prizes	9,000.00	
Plaques	8,620.00	
Materials and Supplies	5,092.75	
Newsletter	3,125.00	
IFORS Registration	1,751.25	
General Assembly Venue	1,495.19	
Gasoline	1,220.00	
Film and Developing	1,063.40	
Mailing	652.00	
Tips	300.00	
Transportation Expenses	126.25	
TOTAL EXPENSES		P 66,176.12
ADD: NET FUNDS AS MARCH 31, 1990		P 30,943.59
NET FUNDS AS OF MARCH 15, 1991		P 168,292.38

and universities around the world to help establish exchanges.
.. Help to ameliorate stresses among various OR groups. The example cited was the decades-long, dynamic tensions among theorists, methodologists, practitioners and users of OR. It was pointed out that all these groups need each other to advance, not only in the

work in their own groups (to keep it timely, up-to-date and advancing), but also in the field of operations research.

In conclusion, Pierskalla said that "by working with our member societies together in this international forum of IFORS, we can achieve economics of performance and significant growth."