Public/ Private Sector Collaboration in Contraceptive Research and Development A call for a new partnership

(Report from a Bellagio Conference)

"To expedite the availability of improved and new methods for regulation of fertility, efforts must be made to increase the involvement of industry, including industry in developing countries and countries with economies in transition. A new type of partnership between the public and private sectors, including women and consumer groups is needed that would mobilize the experience and resources of industry while protecting the public interest."

Program of Action of the United Nations International Conference on Population and Development, Cairo 1994 (Paragraph 12.15)

A Bellagio Conference was convened by the Rockefeller Foundation on April 10-14, 1995, with the following objectives:

1. To establish and promote a dialogue between public sector programs and private industry in the field of contraceptive research and development.

2. To review experiences in public and private sector collaboration and to identify constraints.

3. To make recommendations for promoting a partnership between the public and private sector in the field of contraceptive research and development.

The Conference brought together a mix of senior representatives from the private and public sector, together with resource persons. The Agenda, list of participants, and list of background papers are attached.

Background

While progress in the field has been slow, the need for new and improved contraceptives is still great. Current contraceptive "hardware" is usable but the range of choices is inadequate to meet the present and the rapidly expanding future needs. One piece of evidence is the estimated 100 million people whose contraceptive needs are not met and who would start practicing

contraception if their desire for spacing and limiting births could be fully satisfied by services and appropriate methods. Another example of unmet need is the estimated 36-53 million women who resort to induced abortion each year, more than a quarter of them risking their life or health in the process. On the qualitative side, the inadequacy of the present state of the art is being increasingly articulated by women. Not only is an undue burden currently put on the woman, but important product needs are left unmet.

Mobilization of resources to launch a second contraceptive technology revolution will have to come from industry. Only industry can afford to contribute the necessary financial and technical resources. The potential of industry, in terms of finance and expertise, is great compared to other resources. The pharmaceutical industry in the developed world invests a substantial amount of money (about 16 to 19 percent of revenues) into research and development of new products. With U.S. and European companies reporting estimated total revenues of over $90 billion per year and a projected overall annual growth of 9 to 10 percent over the next five years, there are significant resources for research activities. Industry, however, has retrenched in this field. Of the 12 major pharmaceutical companies that were active in contraceptive research and development in the 1960s, the number remaining by the end of the 1980s was just four.

The need for public and private sector collaboration

Collaboration between the private and public sector is central to all fields of pharmaceutical drug and device research and development. In some fields of health it assumes more importance. This is either because of the importance of the public good or public need involved, or because industry has less incentives or more disincentives for work in this field. In contraceptive research and development (R&D), the benefit of the technology is not limited to the individual, but extends to the family, community, country and the world at large. One contributing factor to the low incentive for industry to work in the field of contraceptive R&D is that the major expanding market is in developing countries, where pharmaceutical sales are generally less profitable. A 1993 estimate was that in the contraceptive market, developed countries accounted for 30 percent of the consumers and 84 percent of the revenue. Product liability and a controversial political climate add disincentives to industry work in this field versus others.

There are some similarities, in this regard, between the field of contraceptive R&D and the Children's Vaccine Initiative. Both vaccines and contraceptives can be considered social products. Vaccines, however, do not carry the same political and

ideological baggage as contraceptives. While the proper timing and spacing of pregnancies contributes greatly to child survival, growth, and healthy development, this crucial message has somehow yet to reach the public.

The landscape

"The real voyage of discovery does not consist in seeking new landscapes, but in having new eyes"
Marcel Proust: Remembrance of Things Past

There is a significant change in the way public and private sectors now view each other, as customers and partners, rather than adversaries. The current climate is favorable for private/public-sector collaboration, with the wide recognition worldwide of the legitimacy and crucial role of private-sector initiatives.

The private-sector, defined at the Conference to mean the "for-profit sector" and primarily private industry, and the public-sector, defined as the "not-for-profit sector", are both highly heterogeneous and include wide and varying approaches to product development.

The *private-sector* is dominated by the large multi-national pharmaceutical companies, but it includes an important role for small to medium-sized multi-national or regional companies, small to medium-sized national companies, "boutique" companies for research, biotechnology companies ranging from well-developed companies with worldwide sales to small start-up companies functioning primarily with venture capital, opportunistic small companies that examine the availability of products in certain markets outside their country and then do whatever is necessary, including some research, to bring those products into their own or other markets, and companies only involved in marketing products. It was remarked that small and medium-sized companies have an important role in providing specific technology and know-how. This includes, not only biotechnology, but also pharmaceutical know-how that could lead, for example, to optimal (and more acceptable) presentation forms for existing compounds (and thereby generating new products).

As far as contraceptive R&D is concerned, large industry now falls into two very distinct categories. There are, on the one hand, the companies that are already active in this field and have a profitable share in the market. These companies can and are willing to increase their investment (and profit). There is, on the other hand, a completely different category which consists of those companies which are not active in this field, including those who left the market when their fingers were burnt in the

process, and those who could not make it in the market, could not maintain their position, or never tried.

With the increasing costs of R&D and the stockholders expectation of high returns, even a large company with a considerable R&D budget has difficult choices to make. Within large companies, the R&D expenditures for contraception have to compete with those for other objectives or fields of interest. One of the toughest decisions for a company to make is whether to enter into a new area, where the company has no particular strength, does not know the market, and has to compete with other players who have been around and are more familiar with the details of the terrain.

The bottomline appears to be that only major breakthroughs in science, brought by the new biology and offering the promise of contraceptive approaches far superior to existing ones and can replace them, will initiate a change in the research portfolio of large pharmaceutical companies not now active in this field. Thus, an effort to mobilize the resources of industry should focus *in the short term*, on those who have the will and the available resources. In other words, we should not lose sight of the possible in search for the probable or the perhaps impossible.

A number of issues influence management decisions in large industry about investment in contraceptive research and development. According to industry sources, these include market issues, strategic issues (with the changing landscape in health care delivery, the trend towards consolidation of industry into larger, fewer, global companies, global development requirements, and development targeted for success in developed countries), medical need, scientific opportunities, the "fit" with portfolio, the core competencies of the company, strength of currently available products, technology/manufacturing issues, and regulatory/legal issues. The "patent position" is also an important consideration. If patents are approaching expiry date in an area of significant sales, it may constitute a positive factor to continue research and thus investment. If the company has a very weak patent position, it constitutes a negative factor against investment.

Small companies are different. They differ in outlook, relative advantages and constraints. Their driving force is opportunity, rather than long-term profit. They have a smaller critical mass, and their decision-making process is faster. They are less troubled by the possible repercussions arising from ideological issues and their relatively shallow pockets do not invite litigation. They can be natural allies for the public sector, as they are equipped to deal with a single or small number of buyers. However, they need to collaborate with large companies for scale up and wider distribution of their products,

so that the trend is typically for small companies to form alliances with large ones.

The *public-sector*, from the perspective of contraceptive R &D, includes two broad categories (with some overlap): the doers and "funders". The "doers" include publicly-funded research institutions and centers, medical research councils and national institutes of health, the public-sector programs initiated in the 1970's to advance contraceptive research and development, and national drug regulatory agencies. The "funders" include, among others, governments and foundations.

Contraceptives women need

From the public-sector point of view, the field of contraceptive R&D needs a clear mission and a focus. The first contraceptive technology revolution was needs-driven, with emphasis on methods that can have a demographic impact. When the revolution stalled, the poorly-funded field became opportunity-driven. In the second contraceptive technology revolution, the field must again be needs-driven, with the emphasis this time on the needs and perspectives of women. Apart from the general need to expand contraceptive choices through development of more user-controlled and safer methods, three specific unmet needs articulated by women's groups include (but are not limited to): expanding male contraceptive choices and responsibility, menses-inducers, and barrier methods that protect against both pregnancy and sexually-transmitted infections. The interest of the public-sector, in its collaboration with the private-sector, is in the promotion of a woman-centered agenda that takes these priorities importantly into account.

Private/public sector collaboration: A definition

The Oxford dictionary defined "collaborate" as "to co-operate; especially in literary, artistic or scientific work". In the present context, we use the term collaboration in a broader sense, to include not only activities undertaken in combination, but activities undertaken in sequence, as a part of an optimal division of labor, which will serve the objectives and facilitate the work of the other sector. Collaboration also implies that both parties have something to bring to the table.

Many lessons have been learned both by industry and public-sector programs during the past two decades. In the past, the public-sector did not always understand industry, its language, its pace of doing business and developmental work, whereas industry did not always understand the special circumstances governing the activities of public-sector programs. Neither party

seemed to appreciate the maxim that while idealism without realism is naive and dangerous, realism without some idealism is cynical and meaningless.

In the field of contraceptive R&D, those components of the private-sector that have opted to be involved share the same goals as the committed public-sector. At the same time, the primary driving forces are different, so that the question is how these two sectors can work together effectively and efficiently.

Four phases, clearly delineated but with some overlap, can be identified in the process of contraceptive R&D: *drug discovery, product development, marketing and post-marketing*. To define an optimal division of labor between the private and public sector, we need to look at the comparative advantages of each in these different phases. Within this definition, it is possible to outline the gaps that need to be filled, and actions that can promote collaboration.

Drug discovery

A rich pool of basic science research is needed for drug discovery. Basic science, in this context, is the process of lead-finding that should result in the identification of new (molecular) targets and the synthesis of new compounds that could be developed into new contraceptive products. The public-sector, generally in the form of government support of research centers and institutions has an important role to play in enriching the pool of basic science for the benefit of industry. A coordinated effort by Medical Research Councils, and National Institutes of Health with support from governments, is needed. Industry, particularly large industry, can afford to invest in targeted applied basic research in some areas. Industry also has traditional strengths in the area of chemical synthesis and the creation of new chemical entities. The emerging biotechnology firms, a private sector domain, are expected to become, increasingly, the point where novel products will be incubated. A major constraint to enhancing the role of the private sector in the field of contraceptive research and development is a perceived dearth of novel ideas and product leads. The new advances in molecular biology and biotechnology have yet to contribute effectively to this field.

Enriching the pool of basic science research requires the large resources of governments. Foundations, can, however, play an important role in stimulating applied basic research targeted to serve the woman-centered agenda. This purpose is currently fulfilled by the collaboration of the Rockefeller and Mellon Foundations which support, together, a network of research and

training centers in developed and developing countries that are preparing a new generation of scientists to enter the field and generate leads for the *Contraception-21* initiative. An ongoing Institute of Medicine (IOM) study is expected to highlight, to industry and to the scientific community, the promise of the application of new advances in cell and molecular biology and biotechnology to fertility regulation.

Product development

Product development is an area of strength for private industry, large and small. It subsumes pharmaceutical development and pre-clinical and clinical research. The public-sector can serve a useful role in support of industry in this phase.

Public sector programs of contraceptive R&D were initiated, mostly in the 1970s, as a response to perceived lack of interest by industry. These include (in no specific order) the WHO Special Program of Research, Development, and Research Training in Human Reproduction (HRP), the Population Council, USAID, the Contraceptive Research and Development Program (CONRAD), Family Health International (FHI), the Program of Appropriate Technology in Health (PATH), and the Contraceptive Development Branch of the Center for Population Research (NICHD). Although they may have been considered by some initially as potential substitutes for industry, after more than two decades of experience the field is now wiser. Their role is rather seen as complementary to industry, so that collaboration and partnership between the two constitute the new model.

There are two scenarios for collaboration between public sector R&D programs and industry: one where the process of product development is initiated by the public-sector program and is handed over, preferably sooner rather than later, to industry when the proof of concept is established; and another where the process of product development is initiated by the private-sector, and the public-sector collaborates in clinical trials and product introduction. There is a room for improvement in both scenarios.

In this phase, public-sector programs need to review their R&D portfolios to ensure that their potential products will be attractive to industry. There is also a need to strengthen the capability and drug regulatory agency acceptability of a carefully-selected number of developing country centers to participate in industry-supported clinical trials.

Stringent *drug regulatory requirements* are often cited as one of the reasons for industry's lack of investment in the field of contraceptive research and development. This has changed in

considerable measure. USFDA requirements have now been streamlined, and unnecessary specific requirements like seven-year beagle dog studies and ten-year studies in primates have been dropped. In fact, USFDA is increasingly playing an advocacy role to encourage innovation in this field.

From a regulatory standpoint, private industry continues to have problems in new areas where rules have not yet been set. One specific example is the development of vaginal microbicides. At the same time, it is acknowledged that before a product is at least preliminarily characterized, it is difficult for a drug regulatory agency to articulate requirements. The Santo Domingo Conference on Barrier Methods (CONRAD, 1993) recommended the establishment of a panel consisting of representatives of the FDA, industry, and public-sector agencies to identify, review, and recommend actions for removing any troublesome aspects of the drug regulatory process. While this recommendation is still valid, participants felt that in this context there is an important role for the World Health Organization to take a global initiative.

There is also a need to review patent laws, not only in terms of the duration of patent life but also to discourage too-broad, non-product-specific general patents which may stifle competition and the innovation process.

Manufacture, registration and marketing

This part of the process is terrain that is more familiar for the private-sector than it is for the public-sector. While public-sector programs have occasionally registered products, this occurred on an exceptional basis, when no private sector partner was available.

A variety of agreements have been negotiated between public-sector agencies and their private-sector partners. One problem that has surfaced in recent years and is constraining private/public sector collaboration has to do with pricing structures set by the public sector. In general, public agencies seek benefits in exchange for the value they have contributed to the product and characteristically require preferential pricing for the public-sector and may also require royalties or other considerations on private-sector sales, particularly if the public-sector contribution was extensive. As a consequence, industry now is very reluctant to accept public support if it has the strings of price structure constraints attached to it. It is timely to expose this issue to a careful study that ensures fairness to all parties.

Post-registration/ marketing

In this part of the process, there are three activities and two potential problems. Post-registration/ marketing activities include product introduction, information dissemination and post-marketing surveillance. Two problems of particular relevance to contraceptives are the litigation/liability climate and the ideological/political controversy.

Industry invests in scientific information and services in connection with their products. According to a 1991 estimate, this activity accounts for 12.5 percent of the cost structure in the innovative European pharmaceutical industry. Where it comes to counteracting misinformation, the public-sector has the comparative advantage of credibility, independence and access to a broader public audience outside the scientific community, particularly to women's groups. The public-sector has an important role in promoting contraceptive choices and improving quality of services. Post-marketing surveillance by industry is generally limited to monitoring and reporting of adverse side effects. It falls to the public sector to conduct large scale epidemiologic retrospective and prospective studies, to demonstrate long-term safety and rare side effects, including beneficial and adverse effects.

Public-sector programs are already actively involved in the areas of product introduction information and post-marketing surveillance. An additional input from funders will probably be needed mostly when a fundamentally new method is put on the market. A good example is the multi-sponsored, jointly-funded, large-scale prospective post-marketing surveillance project of Norplant^{R} contraceptive implant in developing countries, which is now nearing completion.

Litigation and product liability are significant disincentives for industry engagement in the field of contraceptive research and development. For large industry, the risk is only considered worth taking if the profit potential more than compensates for it. The public sector can help by contributing substantially to reform of the law, that will protect the public interest yet not stifle industrial innovation.

Constraints on reasonable, free market promotion of contraceptives were cited as playing a role in the private-sector evaluation of the distribution of research resources. Industry needs to be allowed to differentiate products via appropriate promotion. If regulatory decisions make competition difficult, therapeutic areas more given to commercial opportunity will command the development funding.

It appears that ideological issues will continue to haunt

the field. It also appears doubtful that any large private industry will invest in areas that are of high ideological sensitivities. Only small industry and industry in developing countries will be willing to weather the storm. Small industry is keen to get a niche in the market, does not have a broad portfolio of products that can be threatened by boycotts, and lack the deep pockets that invite litigation.

Conclusion and Recommendations

"Two roads diverged in a wood, and I-
I took the one less travelled by,
And that has made all the difference."

(Robert Frost, The Road Not Taken, 1916)

As one participant has remarked, perhaps the meeting in Bellagio will go down in history as the first where participants dared to think it practicable to establish and foster a realistic, long-lasting and fruitful partnership in contraceptive development between the public and private-sectors.

There is an urgent need to promote private/public-sector collaboration to speed up action on the woman-centered agenda for contraceptive R&D, in particular the development of male methods of fertility regulation, woman-controlled vaginal spermicides/microbicides, and menses inducers, and to get new, safe and effective products on the market in the shortest possible time. Promotion of private/public-sector collaboration can result in mobilization of more resources from industry in the field of contraceptive R&D.

Recommended actions fall into three main categories: Activities targeted to the public sector, designing a new program of collaboration in contraceptive research between the public and private-sectors, and addressing the constraints.

Activities targeted primarily to the public sector

Review of the R&D portfolios of public-sector programs from an industry perspective

There is a need by public-sector programs to review their research and development portfolio to ensure that their potential products will be attractive to industry to pick up. Key variables are manufacturability, availability of supplies of raw materials, and potential market. Such a review will have the dual advantage of helping in the transfer of products to industry at an earlier stage (with saving to the public-sector and mobilization of

resources from industry) and of eliminating non-viable, non-marketable leads, even if they are scientifically attractive (resulting in more effective utilization of public funds).

Participation of developing country centers in industrial research

There is a need to strengthen the capability of a carefully selected number of developing country centers to participate in industry-supported clinical trials. While networks of clinical research centers have been supported by public-sector programs to participate in their clinical trials, they have not been well utilized by industry as contract research organizations. One concern is that good clinical practice standards are essential if results are to be accepted by drug regulatory agencies, and another is that time is a critical commodity in these studies, and such centers may be perceived as taking longer to prepare for the kind of research that will satisfy regulatory requirements. The acceptability of such sites by regulatory authorities must be explicit. The inclusion of these sites should be seen by industry as equal to developed country centers.

The approach, however, is attractive for industry investment. It is considerably less expensive and allows recruitment of large numbers of volunteers in a short period, more than compensating for lengthy preparation. Time is of essence to industry if products are to get to the market early and before other competitors. It also fits the current trend in industry toward global development. The advantage to developing countries is early experience with the product, and contribution to the global research effort. There is thus a role for the public-sector in helping to strengthen further the clinical centers in developing countries.

Industrial Collaboration in Contraceptive Research: A Proposed New Program

As an effort to promote engagement of industry in the women-centered agenda for contraceptive research and development, it is proposed to initiate a new program of a collaborative effort of the public-sector with industry in the early stages of drug development.

Contraceptive development is a long-term process with many leads falling by the wayside. Industry sources estimate that only one out of 20 compounds which have been selected for pre-clinical development can be introduced as a new product. By the time a product successfully completes phase II trials, the chance of reaching the market is 50 percent. A program of risk sharing in the early critical stages of the development process may tip the

balance in management decisions by industry to invest. The proposed program will match, not necessarily on a 50/50 basis, the investment of industry in areas of priority for the woman-centered agenda. It will be open to large industry, small industry, industry in emerging economy countries, and industry in developing countries. Donor support will be channeled directly to those public-sector research institutions with which industry is collaborating since the trend in industry is to depend increasingly on extra-mural research. Donors will be supporting not-for-profit institutions, will be getting more return for less money (with the matched funding), and will be assured that the areas they are supporting are of strong interest to industry, and considered to be a good investment. Special consideration will be given to the involvement of developing country centers. Support will be limited to the early stages of development, when the viability of the product is still in doubt and the investment is still considered high risk. Beyond that stage, the amount of investment needed will increase so that it will have to be taken over by industry, with possible collaboration with public-sector programs in advanced clinical testing.

It is hoped that such a program of joint funding with industry will mobilize resources not only from industry, but may attract the attention of other donors not currently contributing to this field, yet are interested in population and reproductive health issues. The Mellon Foundation has already expressed interest in joining and supporting this effort. At least two other foundations with activities in the population field and a potential European donor, have expressed interest in learning about the initiative. Trusts may also be interested. The possibility of initiating such a consortium of donors will be pursued particularly after demonstrating the feasibility of the idea. The plan would be for a consortium, with pooled resources and an option to earmark, requiring no new bureaucracy, and utilizing an existing institution. There would also be an expert independent advisory group, serving as a resource to the consortium, with appropriate representation of women's perspectives. If there is enough interest in this activity, as is hoped, a Bellagio conference will be organized to convene all interested parties and set the ground rules for the operation of this novel initiative.

Addressing the Constraints

There is a need to clarify *drug regulatory requirements* for the development of vaginal microbicides. There are no guidelines concerning drug regulatory requirements in this field. Before any company would embark on a major investment in this area, it will need to know the ground rules. The World Health Organization, although it cannot assume a supra-national or even an

international drug regulatory role, has played a crucial role in streamlining and harmonizing the drug requirements for steroid contraceptives by convening a symposium on this subject in 1984 which significantly changed the thinking of several national drug regulatory agencies. It has also contributed to a better understanding of the requirements for contraceptive vaccines. It is recommended that WHO consider convening a similar symposium to discuss the drug regulatory requirements for vaginal microbicides/spermicides, as a joint effort between the Human Reproduction Program and the UN Joint Program on AIDS. It should bring together representatives from drug regulatory agencies, scientists, industry experts, legal experts/ethicists, and representatives of women's groups. This effort will build on work already begun in this area.

As mentioned earlier, a problem that has surfaced in recent years and is constraining private/public-sector collaboration is the *pricing structure for the public-sector*. A preferential price for the public-sector in developing countries does not seem to create much of a problem for industry. However, any fixed price structure is generally viewed critically by industry, which favours a price to be dictated by market mechanisms, and to be negotiated for specific orders. A special price for the public-sector in *developed* countries (which is less well-defined) is turning out to be a problem. Governments are under political pressure to get a return for the public-sector on their investment in product development, in the form of affordable prices. Industry, on the other hand, has a problem with such a price structure, although it has no problem with paying royalties as appropriate. Industry may become increasingly reluctant to accept public support, if it has the strings of price structure constraints attached to it. A study and a meeting to look in depth and in fairness at this issue was proposed.

Litigation and product liability are significant disincentives for industry work in the field of contraceptive research and development. For large industry, the risk is only considered worth taking if the profit potential justifies it. The public-sector can help by contributing to a reform of the law, that will protect the public interest but not stifle industry innovation. While awaiting the outcome of US Congress deliberations on tort law reform, which would be very much welcomed by the private-sector, it is planned to convene a Bellagio Conference to review experiences in liability/litigation and to compare experience and different solutions in the laws in the US, Europe, and other countries. While such a conference may further inform the ongoing dialogue in the US, its impact will probably be more in Europe where there is a need for preventive action before the problem of litigation gains hold.

Follow-up

To emphasize the importance of follow-up action, one participant quoted Goethe as saying "To sow is not as difficult as to harvest".

A follow-up Bellagio Conference is planned in two years time, to review progress in public/private-sector collaboration with the participation of industry, public-sector and the planned consortium of funders. This conference can also follow up on the recommendations of the ongoing IOM study on New opportunity for Public/Private-Sector Collaboration.

M. Fathalla
E. Diczfalusy
J. Spieler

AGENDA

Monday, April 10

Arrival of participants

6:30-7:30 P.M. Welcome remarks by Center Director
Introduction of participants
Adoption of agenda and timetable

Tuesday, April 11

9:00-10:45 A.M. Session: An overview
Moderator: S. Segal
Introductory remarks - M. Fathalla
Scientific opportunities for contraceptives of the 21st century -
A. Rosenfield/ M. Harper
Discussion

10:45-11:00 A.M. Coffee break

11:00-12:30 P.M. Session: Issues affecting the participation of the private sector in contraceptive development
Moderator: A. Negro-Vilar
Market-related and other issues - G. Perkin
Discussion

12:30-2:00 P.M. Lunch

2:00-3:45 P.M. Session: Review of experiences in public and private sector collaboration
Moderator: P. Benagiano
Model public/private sector agreements - J. Spieler
Discussion

3:45-4:00 P.M. Coffee break

4:00-5:30 P.M. Session: Review of experiences in public and private sector collaboration (continued)
Moderator: L. Bronnenkant
Lessons from the vaccine field - P. Harrison
Discussion

Wednesday, April 12

9:00-10:45 A.M. Panel Discussion I: Private and public sector collaboration: Identification of constraints

Moderator: P. Corfman

Panel

W. Bergink
F. Haseltine
E. Johansson
M. Kafrissen
W. Klemann
A. Negro-Vilar

10:45-11:00 A.M. Coffee break

11:00-12:30 P.M. Panel Discussion II: Private and public sector collaboration: Identification of constraints (continued).

Moderator: W. Bardin

Panel

L. Bronnenkant
L. Drexler
H. Gabelnick
G. Thaler

12:30-2:00 P.M. Lunch

2:00-3:45 P.M. Working Groups: Promotion of private and public sector collaboration.
Group 1: Moderator - M. Fathalla
Group 2: Moderator - C. Makinson

3:45-4:00 P.M. Coffee break

4:00-5:30 P.M. Working Groups (continued)

Thursday, April 13

9:00-10:45 A.M. Working Groups (continued)
Preparation of reports

10:45-11:00 A.M. Coffee break

11:00-12:30 P.M. Discussion of Working Group reports
Moderator: E. Diczfalusy

12:30-2:00 P.M. Lunch

4:00-5:30 P.M. Conclusions, Recommendations, Follow-up
Moderator: S. Sinding
Rapporteur: E. Diczfalusy, J. Spieler

5:30 P.M. Adjournment

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BACKGROUND PAPERS TO THE CONFERENCE

PATH study on market-related issues affecting the participation of the private sector in contraceptive development.

PATH study on enhancing the role of the private sector in contraceptive research and development

Contraceptive research and development: Obstacles and opportunities. Report by the National Research Council and IOM.

A woman-centered approach for contraceptive research and development. M. F. Fathalla in: G.Sen, A. Germain & L.C.Chen, editors, Population Policies Reconsidered