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ASSESSMENT OF THE NATIONAL TEXTBOOK PROGRAM OF THE MINISTRY OF EDUCATION OF EGYPT AND THE USAID DONATED CAMERON PRESS PRODUCTION LINE

Prepared by

Philip Cohen and Peter H. Neumann
Consultants

Cairo, January 1988

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USAID MISSION, CAIRO

The Central Agency for University and School Books and Educational Aids (CAUSB)

Assessment of the National Textbook Program of the Ministry of Education of Egypt and the USAID-Donated Cameron Press Production Line

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Foreword

We would like to express our appreciation to USAID, especially Mr. Jerry J. Wood, Director, Office of Education & Training, for the opportunity to make a contribution to the assessment of existing Ministry of Education textbook production capabilities, and to the potential for significant improvements in the quality and quantity of Egyptian textbooks.

We would like to thank the Egyptian Government, especially Dr. Ezzat Abdel Mawgood, President of the Central Agency for University and School Books and Educational Aids (CAUSB), and his staff, for wholeheartedly accepting our mission.

We appreciate the interest of Mr. George Laudato, Deputy Director of the USAID Mission and Mr. William Gelabert, Associate Director, Human Resources, and gained additional insights from our discussions with them.

We have received considerable support and guidance in our mission from USAID and from CAUSB and have profited greatly from having frequent and ready access, and careful briefings and advice, in our several discussions with Mr. Wood and Dr. Mawgood. We wish to thank them both for their courtesy and support. We hope that they will read this report in the spirit in which it is written, a professional analysis of the opportunities and difficulties facing textbook provisioning in Egypt at this point in time.

Our thanks are also due to Mr. Mahmoud Gamal El Din of USAID, our almost constant companion, advisor and interpreter whose help has been crucial. Furthermore, we have had much cooperation, complete readiness to provide all of the information we required, and the most cordial relations with the dedicated senior staff at CAUSB, but especially Mr. Gamal Gad, Dr. Shibini, Mr. Ghannam, and many others, and we wish to thank them all.

Although problems with the Cameron Press triggered our mission, we are grateful that the description of the scope of our work: "to assist with making significant improvements in the quality of Egyptian textbooks and to assess

the USAID donated Cameron production line including recommendations for its maximum utilization", was broad enough to allow us to apply our experience in publishing for education and the production and printing of textbooks to several aspects of the Egyptian textbook provisioning system.

Finally, the most poignant moment of our three-week mission came at a visit to a middle school near Alexandria, where we met the children and their teachers whose needs must be the first concern of any textbook provisioning system.

We should be glad if our report and recommendations make a small contribution, within the framework of the massive efforts to provide textbooks made by the Egyptian Government, towards providing better teaching materials for these wonderful, lively, and responsive children and their dedicated teachers.

Philip Cohen

Peter H. Neumann

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Introduction

Since our arrival in Cairo three weeks ago, the mission has been briefed on several occasions by Mr. Jerry Wood of USAID and Dr. Ezzat Abdel Mawgood, President of the Central Agency for University and School Books and Educational Aids.

We made several visits to the Giza Printing Plant, inspecting equipment and interviewing staff, and to CAUSB main offices in Gezira where we discussed the management and organization of CAUSB with senior staff and reviewed procedures.

Visits were made to several printing plants producing books for CAUSB and to the Ministry of Education's warehousing operation.

Discussions were held with agents of the builders of the Giza Plant, suppliers of printing equipment and supplies, building engineers and others.

Two days were spent in Alexandria visiting the two paper mills supplying paper for the textbook project.

We produced a first "Interim Report" for AID/CAUSB on Friday, January 8th; a Second "Interim Report" on January 15th; Briefing Notes for a meeting at USAID on January 20th; as well as three written requests, for people to see and places to visit, directed to USAID and CAUSB.

This final report sums up our impressions, findings and recommendations.

I. Background and Present Status of Textbook Provisioning in Egypt, including major objectives reflected in this Report.

1. Under the direction of the Ministry of Education (MOE), the Government of Egypt supports a major program that produces free textbooks for pupils in primary, middle and secondary schools, in technical and vocational schools, and for teacher training.

2. Government's efforts recognize the importance of supplying instructional materials, in addition to building schools and providing teachers. Recent research has confirmed the importance of textbooks, to quote: "From the evidence so far, the availability of books appears to be the most consistent factor in predicting academic achievement[1/]."

3. From modest beginnings, national textbook production and the distribution of free books, increased by 1987/88 to approx. 570 titles and 92.5 million copies. For 1988/89, approx. 688 titles and a total of 135.5 million copies are planned.

4. The efforts of the Ministry of Education, supported by the work of the Central Agency for University and School Books and Educational Aids (CAUSB), have produced millions of free textbooks and delivered them to schools.

5. Under the present system, established in 1975, responsibility for the various phases of textbook provisioning are divided between MOE and CAUSB, with little coordination between them.

6. MOE commissions authors, generally retired MOE staff, supervisors and university professors who produce manuscripts with little outside assistance, no editorial planning, design or supervision. Authors receive small lump-sum payments for their work. Book illustrations of poor quality are provided by MOE staff. These manuscripts are then handed over to CAUSB with instructions

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1/ "Textbooks and Achievement: What we Know" - Heyneman et al, World Bank Staff Working Paper # 298, 1978.

not to make any changes, not even to correct errors. Proofs are returned to the authors for checking. Finished books are delivered by CAUSB to the MOE warehouse for distribution.

7. CAUSB has developed an elaborate and generally effective system for producing the books required by MOE. The provided manuscripts and illustrations are passed on to the printer together with a set of specifications regarding page format and typesize. CAUSB purchases paper from two government owned printing mills, and purchases printing from 70 different printers.

8. Eight of the printers employed by CAUSB account for 80% of total volume of orders, and a larger percentage of actual expenditure on printing because the larger plants do color work. All eight plants are government owned or parastatal organizations. Relations between CAUSB management and these printers are strained at present.

9. Textbooks produced by government are of poor quality in appearance and, we are told, in content. We have examined the texts in mathematics and science produced in English for the language schools. They are full of inconsistencies, are badly written, and have many errors in spelling.

10. In 1975 CAUSB was established as a separate organization. In 1976/77 plans were made to add a printing plant capable of producing large quantities of books. Under successive presidents of CAUSB, these plans were modified. Land was acquired in the Giza suburb of Cairo and building is being carried on, on the basis of a set of plans produced in 1981. They include a nine story building housing printing press, binding equipment and ancillary plate making and reproduction departments. In addition, room is provided for an audio-visual production center, materials storage, and administrative offices. A large warehouse for paper storage has been completed.

11. USAID was approached in the late 1970s and agreed to provide funds for the purchase of a major piece of printing equipment, a Cameron Belt Press.

12. At this time, the press building is only partially completed. The Cameron Press has been installed but is not operational. A small amount of book production is carried out by the unfinished plant. It accounts for 0.5% of CAUSB's needs and is of poor quality.

13. MOE and CAUSB are determined to finish the building within the next few months, and to transform the Giza installation into an efficient printing plant.

14. Objectives addressed in this report:

a. Put Giza plant into full operation producing substantial output of textbooks of acceptable quality.
b. Improve the production and purchasing of textbooks by CAUSB.
c. Improve the relationship between MOE and CAUSB and rationalize CAUSB's functions to include basic editorial services in addition to present manufacturing and production services.
d. Improve textbook quality initially through better printing and binding as a step towards introducing better design and illustrations and eventually improving the content.
e. Develop human resources, raise standards of technical expertise at CAUSB and the Giza printing plant.
d. The future of textbook publishing in Egypt.

II. Summary of Conclusions

1. The textbook provisioning effort of government has grown to such a size and is producing textbooks of such indifferent quality, that the present seems an opportune time to raise questions about basic assumptions in addition to assessing the Giza Printing Plant and reviewing the current process of producing instructional materials.

2. We propose to do this in full recognition of the achievements of government's book provisioning scheme which has delivered in a timely fashion, we are told, free textbooks to millions of Egyptian students. Few countries in the Third World can make similar claims.

3. Our discussions, visits and observations pose the following questions:

a) Is government justified in assuming, and able to carry on indefinitely the financial burden, the administrative and technical responsibility for such a diverse and extensive program of free textbooks?

b) Is government's investment in these textbooks (U.S. $35 million spent in 1987/88 on paper, printing and binding without counting other expenses) well spent, or could similar amounts of money, better allocated, produce better textbook materials? Plans for 1988/89 call for an increase of 40% in textbooks produced by MOE.

c) What is the proper role of private sector publishers with regard to the production and sale of textbooks and other instructional materials? A capable and indigenous publishing industry is important to the development of human resources in Egypt. The growth of the local publishing industry depends on its ability to have a share of the textbook market.

d) What should be the respective functions of MOE and CAUSB in textbook provision, and what would improve their relationship and lead to better coordination between them?

e) What steps are to be taken to improve the quality of the textbooks produced by the government?

f) How important is the Giza Printing Plant to CAUSB in the fulfillment of its obligation to produce books for MOE? What needs to be done to make the Giza Plant operational and capable of producing textbooks of acceptable quality?

g) What is the state of development and current capacity for book production of Egypt's printing industry?

h) Are Egypt's paper mills, Rakta and Ahliya in particular, able to produce papers more suitable to textbook manufacture than their present bookpapers?

4. Before we proceed to our recommendations, a better understanding of the essentials of publishing and producing textbooks may be helpful[2/].

a) Our brief description explains why textbook publishing requires a permanent institution and a competent staff of professionals and technicians. Secure annual funding is needed. Long-term planning, close coordination of a team of creative people is at the heart of the role of the publisher. Constant supervision is required over all phases of book production.

2/ Refer: "Publishing for Schools, Textbooks and the less Developed Countries" Peter H. Neumann, World Bank Staff Working paper # 398, 1980, 88 pp.

b) The often observed failure of national textbook schemes to produce textbooks of acceptable quality is a result of government's difficulty in building a permanent institution for the purpose, providing adequate compensation to attract and retain competent professionals and technicians from the private sector, and to endow the institution with the freedom and responsibility to produce effective instructional materials. Yet these are essential pre-requisites for success[3/].

c) Publishing for schools brings together the various talents of master teachers, innovative educators and writers capable of expressing clearly at the proper level of difficulty for children, educational concepts and objectives combined with a great deal of information.

d) A team of writers is supported by the publisher, by editors with a background in teaching and years of experience in developing textbooks, whose expertise lies in knowing how to transfer the knowledge of the master teacher to the printed page and make it accessible to the average student taught by the average teacher.

e) The editor relies on an experienced designer to help with the planning, organizing, and defining of individual teaching units. Together they bring color and excitement to otherwise dull subjects and book pages and motivate the child to learn.

f) The editor, working with authors, designer and the production manager of the publishing house coordinates and supervises the entire process. It begins with planning a book or series, continues through preparing a scope and sequence chart and determining format and approximate number of pages. The editor coordinates the writing team and supervises book production until final film is ready for the printer. In the process, much of the content material may be tested first in actual classroom situations or "piloted".

3/ "Mexico's Free Textbooks, Nationalism and the Urgency to Educate" Peter H. Neumann and Maureen A. Cunningham, World Bank Staff Working Paper # 541, 1982, 144 pp.

g) Only after the publisher is satisfied that the textbook is likely to work in the classroom will the first edition be printed and bound.

h) The process does not end there, feedback from schools supplied by the publishers' representative begins as soon as the first edition has been widely used throughout an entire school year. Within four to five years a second edition based on what has been learned in actual classroom use is likely to be published..

5. Especially at primary and secondary levels and with inexperienced authors, the publishers' contribution to content development is crucial. A school system with poorly educated teachers and meager resources deserves the most carefully prepared textbooks, as well as practical, straightforward teachers' editions.

6. Under average conditions, a new series of primary level (grades 1-6) textbooks, takes a minimum of four years to prepare. The entire series needs to be outlined before book 1 is started. If textbooks are to be introduced a grade at a time, which is the normal practice, it may be possible to release book 1 after three years, followed by developing other textbooks at the rate of one grade per year. Some subjects, i.e., mathematics, science and foreign languages lend themselves to the use of adaptations of existing successful textbooks from other countries. Selections of texts to be adapted/translated has to be made carefully and the adaptation/translation may still take years to complete. The end result, however, stands a better chance of success than starting a completely new series.

III. Recommendations

In listing our recommendations, we proceed from situations needing immediate attention to the larger question of improving the content, design, and general appearance of the textbooks, and recommendations on how to prepare for policy decisions affecting textbook provisioning, relations with the private sector, and the future of the national textbook program.

A. The Giza Plant*

1. Construction work intended to finish the press hall and the mezzanine floor should be started as quickly as possible. It is recommended that the work should be supervised by a representative from the firm of architects who designed the building, in collaboration with a project manager appointed by CAUSB.

2. Specific work that needs to be completed in the press hall includes dustproofing, air conditioning, treating the floor and connecting the services that are vital for the proper functioning of the Cameron press. The installation of a central vacuum system for cleaning the premises and the equipment is recommended.

3. Walls, ceilings, floors and windows have to be completed on the mezzanine floor . Dustproofing and commissioning of the air conditioning system are also vital. The provision of services has to be completed. Here also, a central vacuum system is recommended for cleaning the premises and equipment.

4. An access door should be made in the side wall of the paper warehouse to facilitate paper handling. The driveway between the printing plant and the paper warehouse should be paved.

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* For a detailed description see Annex 4

5. As soon as possible a technical representative from the European agent for Cameron should check the equipment and make sure that nothing is broken or missing and should inspect the services that are connected to the press. This same person should return at least once, but preferably once a month, during the period that building work continues.

6. Consideration should be given to temporarily halting the other printing and binding machinery in the press hall while construction work is under way.

7. A second opening should be made in the wall between the exercise book machine hall and the paper warehouse. The machine itself should be positioned with the feed end furthest from the press hall.

8. Necessary consumable supplies and paper should be obtained so that they are available when the press is commissioned.

9. A means should be found to pay management and staff adequately.

10. Three managers should be appointed to run the printing plant. They should receive long term technical assistance in their specific fields.

11. Long-term technical assistance should be sought from the manufacturer of the Cameron press or his agent. Training programs should be set up to ensure that sufficient plant staff are properly trained.

12. Installation of the Cameron system should be completed and the machinery should be commissioned. Trial production should continue for a period of up to one year.

13. No additional production equipment should be purchased until the Cameron system and the rest of the existing plant are fully productive.

B. The Organization of CAUSB*

1. Since CAUSB is such an important purchaser of paper, printing and binding in Egypt, it is in a unique position to bring about improvements in efficiency, quality and economy on a national scale. We recommend that CAUSB should adopt a positive approach to purchasing and that it should use its influence constructively.

2. Senior staff of CAUSB should receive training in purchasing.

3. CAUSB should consider paying bonuses to its suppliers for timely delivery and good quality rather than exacting financial penalties for late delivery and poor quality.

4. We recommend that CAUSB should enter into contractual arrangements with its larger suppliers and arrange for discounts for large volume business.

5. We are not convinced that the present purchasing system which uses fixed price scales necessarily works in CAUSB's best interests. We recommend that CAUSB should experiment with a system of tendering.

6. We recommend that CAUSB should attempt to reduce the number of printers that it uses, but at the same time we feel that CAUSB should look for ways to place some printing orders with the larger printers in the private sector. To achieve this, it will be necessary to reconsider the wide difference between the prices paid to private and public sector printers.

7. CAUSB should become more involved in the decision-making process in drawing up specifications for titles that it is to produce. It should also be able to offer constructive production-related services to the Ministry of Education. As a first step in this direction, trained book designers should be used to improve book layout and to ensure that optimum page extents are regularly used.

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* For a detailed description see Annex 8

8. Regular meetings should be held between the staffs of the Ministry of Education, CAUSB and the larger printers to discuss and resolve mutual problems.

9. In the interests of economy and efficient production we recommend that the number of trimmed page sizes used for Egyptian textbooks should be reduced.

10. Page extents of Egyptian textbooks should be rationalized. This can only be done successfully if it is linked with the proposals outlined in paragraph 7. above.

11. An overseas expert should examine the production control routines used in CAUSB and should advise on the introduction of a computer assisted system.

C. Paper Supplies*

1. Meetings should be arranged between CAUSB, CAUSB's major suppliers and the paper mills to discuss ways in which paper quality can be improved or altered to reduce wastage and to increase productivity. Attention should also be given to the way in which paper is packed, handled and transported.

2. CAUSB should finance the importation of a quantity of groundwood pulp and both RAKTA and Al Ahliya should make test tonnages of papers containing different amounts of this pulp. These papers should be then tested by CAUSB's major printers.

3. The paper mills should be encouraged to produce a differently formulated paper for offset printing from that which they produce for letter press printing. CAUSB should make sure that the correct paper is supplied to its printers for each title.

4. Al Ahliya should be encouraged to fit computer controls to their paper-making machines.

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* For a detailed description see Annex 9

5. CAUSB, CAUSB's major suppliers and the paper mills should agree on a program to rationalize the sheet sizes and the reel widths of the paper that CAUSB buys. This program should run in conjunction with the proposed program to rationalize the trimmed page sizes of the books that CAUSB produces.

6. To cut down paper wastage in the web-offset printing, trimmed page sizes should be more closely matched to the fixed cut-off dimensions of the printing machines in CAUSB's suppliers plants.

7. The paper storage requirement on the Giza site should be analyzed. Better storage and materials handling methods should be introduced in order to cut down paper wastage.

8. Consideration should be given to equipping the Giza warehouse with racking and the appropriate materials handling systems so that better use can be made of the available capacity. Consideration should be given to moving the Ministry of Education book warehouse to Giza from its present site in central Cairo.

D. Improving Content, Design, Production and Manufacture of Government Textbooks

1. We believe that improved textbooks can be produced without necessarily increasing the total amounts of money spent by government in textbook provisioning. Instead, we recommend that funds be allocated differently. More money needs to be spent on the development and employment of human resources, on the preparatory stages of textbook publishing: that is, better author teams, editorial planning, design and coordination of the various elements of textbook development and production, better artwork, photographic illustrations and typography, improved copy editing. Better planning should result in savings in the manufacture of the books, e.g., paper, printing and binding.

2. Improvement will come slowly. Although we believe that the necessary talent is available in Egypt in the commercial sector, there is little local experience with managing a major educational publishing program. We recommend that outside expertise be sought to analyze the problems of organizing, staffing and training a publishing component. Technical assistance will be required over a number of years to bring in key technicians, textbook editors, a designer, etc. They will initially carry on these tasks while training local counterparts. Experienced competent management will be essential if the publishing component is to operate successfully. Seminars and workshops should be held to acquaint authors, publishing staff, and present administrative executives and purchasing managers with new ways of cooperating and integrating procedures.

3. In the next section, E, we recommend a fundamental review of government's role and policies in textbook provisioning. This will take time. In the interim we recommend immediate steps to consider adding publishing services to the other services provided by CAUSB to MOE. Adding publishing services to CAUSB's mandate will strengthen the chances of CAUSB's survival as an institution, which is threatened in our view as long as CAUSB remains essentially MOE's section for outside purchases of paper, printing (including typesetting) and binding, somewhat arbitrarily established as a separate institution.

4. Specifically we recommend:

a) Dr. Mawgood to suggest to the Minister of Education that CAUSB could contribute more to improving the textbooks by offering editorial services to MOE authors and to obtain his support and permission to establish such services.

b) A publishing consultant be employed to analyze initial requirements, prepare an organization chart, budget, job descriptions for key staff members, and outline procedures, forms, etc. to be used in managing the publishing functions. The publishing consultant should be asked to specify the required technical assistance. He should present a two-day seminar to CAUSB staff to outline the proposed new services.

c) That USAID be prepared to support both the initial analysis of requirements and the provision of experts over a number of years. An educated guess of requirements would be:

i. Initial survey by publishing consultant 2.5 man/months.

ii. Foreign experts/technicians:

- Project editors: Six man/years
- Designer: Two man/years
- Illustrator/Artist: One man/year
- Publisher/Manager: One man/year*

E. Basic Issues, Economic Choices, Options and Alternatives Affecting Egypt's Textbook Provision System that need urgent Clarification and Consideration

1. Egypt has a deserved reputation for providing professionals, teachers and technicians for African and Arabic countries in the region. It has the human resources, but may lack the experience, for applying modern techniques of textbook development, design and production in its school book provisioning system.

2. In spite of Egypt's intellectual resources, MOE's textbook program has grown in quantities of books supplied free to students, but without a commensurate increase in the quality of these materials.

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* Could possibly be substituted by periodic , brief supervisory missions of consultant.

3. We recommend that every effort be made to reverse this trend. The following paragraphs list choices, options and alternatives that need to be considered in a major study so that new policy decisions can be made on the basis of Egypt's experience and needs, considering the relevant models for textbook provisioning from other countries.

4. Other countries in similar circumstances have gone through the same experience of major textbook programs producing poor materials, unaware of the options and alternatives, the different ways in which textbook provisioning may be achieved[4/].

5. All textbook provisioning systems in countries with a mixed economy (public and private) have to deal with the following elements. There the resemblance ends however, as each country develops its own system.

a. Textbooks may be based on a national curriculum, on a curriculum developed by individual states within a federation or union (Australia, West Germany, U.S.A., etc.) or on no curriculum at all (U.K. primary schools).

b. The supply of textbooks may be financed with public funds and textbooks supplied free to students at certain levels -- most commonly for children in primary schools, those in middle schools, and sometimes in high school, and very rarely beyond school levels.

c. Free textbooks may be given to all pupils each year (Mexico at primary level); textbooks may be loaned to pupils free of charge and expected to last several years; textbooks may be loaned for a fee paid by parents.

4/ "Textbook Publishing in North America and Western Europe: A Comparative History", Peter H. Neumann, Seminar on Economic Choices in the Production of Textbooks, World Bank, Washington, D.C. April 9-25, 1986.

d. Textbooks may be financed by the national government, by states and by local authorities, or bought by parents, or a combination of any/or all four sources for financing school books.

e. Textbooks may be approved prior to publication by educational authorities, textbooks may be approved after publication by educational authorities, textbooks need no official approval at all.

f. All textbooks, whether bought by the public or private sector, may be published by private sector educational publishers risking their own money, or be published jointly by public sector educational authorities in cooperation with private sector publishers, or all textbooks at primary level and beyond may be nationalized and produced by the public sector.

6. We could go on listing alternatives, options and choices but believe the point has been made.

7. We recommend a study and analysis of the systems, public and private, used to publish educational materials in Egypt, which would address these major issues:

a. Policy Issues: includes government's choice between publishing and purchasing books, the respective roles of the public and private sector publishers, standards of textbook provision, economic choices and financing of textbooks.

b. Institutional Issues: includes coordination of the parts of the system, resource management, and staffing.

c. Educational Issues: includes the relationship between curriculum development and textbook development, testing or piloting of materials before mass production, book quality, and the effective classroom use of books, i.e., support for the teacher, teachers' editions, workshops, etc.

8. The final report should include economic choices and recommendations based on a number of alternatives. The entire document is to be presented to the Minister of Education for his decision on how to structure the future of Egypt's textbook provision system.

9. A major failure of textbook projects in the Third World, whether produced by the public or private sectors, is that too much money is spent on paper, printing and binding considered the essentials, and little money is spent on authors, editorial services, design, testing of materials, good illustrative materials, the preparatory stages of textbook production. These last components determine the quality of the materials but are not generally understood or appreciated.

10. This is certainly the case in Egypt, where $35 million was spent in 1987/88 on paper, printing and binding and practically nothing was expended on the preparatory stages. The results are large, unwieldy, poorly written and illustrated books. We recommend instead, as a rule of thumb, that 10% of the money spent on textbook production should be earmarked for human resources: authors, editors, designers, illustrators, for testing and production services. We are confident that this amount can be saved out of the paper printing and binding budget, and that such an allocation will result in much better textbooks.

11. We recommend that USAID finance the technical assistance aspects of human resource development as specified in Annex 11.

ANNEX 1

TABLE NO. 1

NUMBER OF STUDENTS IN SCHOOLS

1. Primary School:

First grade	1,320,600
Second "	1,303,600
Third "	1,208,400
Fourth "	1,178,000
Fifth "	990,500
Sixth "	1,094,500

2. Preparatory School:

Seventh grade	976,285
Eighth "	879,005
Ninth "	916,465

3. Secondary General School:

First (General) grade	223,811
Second (Literature) grade	91,757
Second (Science) "	126,860
Third (Literature) "	106,608
Third (Science) "	95,512
Third (Math.) "	77,017

4. Teacher Training:

First year	30,000
Second "	28,000
Third "	28,000
Fourth "	31,000
Fifth "	30,000

ANNEX NO. 1 (Cont'd)

TABLE NO. 1 (Cont'd)

NUMBER OF STUDENTS IN SCHOOLS

5. Commercial Secondary:

First level	183,000
Second "	174,000
Third "	172,000

6. Agricultural:

First level	58,000
Second "	53,000
Third "	29,000

7. Industrial:

First level	150,000
Second "	140,000
Third "	126,000

ANNEX NO. 1 (Cont'd)

TABLE NO. 2

NUMBER OF SCHOOLS

Primary	14016
Preparatory	3717
Secondary (General)	670
Teacher Training	121
Commercial (Secondary)	448
Agricultural (Secondary)	79
Industrial (Secondary)	202

Average Student/teacher ratio = 40:1

ANNEX NO. 2

TABLE NO. 3

PLANNED TEXTBOOK PRODUCTION

SCHOOL YEAR 1988/89

LEVEL	NO. OF BOOKS	BOOKS WITH ADEQUATE RESERVE	BOOKS TO BE PRINTED	NO. REQUESTED
Primary	70	7	63	45,155,000
Preparatory	68	--	68	39,132,000
Secondary General	83	--	83	13,677,000
Secondary Language	122	19	103	5,980,000
Prep. Language	48	--	48	6,037,255
Sec. Agriculture	110	58	52	1,220,000
Sec. Commercial	137	75	62	6,184,000
Teacher Training	164	13	151	3,178,000
Industrial	257	103	153	2,014,000
Total	1058	275	783	120,563,255 (approx.

ANNEX NO. 3

The Giza Printing Plant

1. Architectural plans for the Giza printing plant were first drawn up in 1976/77. Originally the intention was to provide a warehouse for storing paper, a printing plant with several floors of storage for finished books and an administrative block. The plans have been modified several times. The warehouse has been built and is in operation. The printing plant has been partially completed and is in partial operation. Plans for a separate administrative block have been abandoned and the administration will now be housed on several floors above the printing plant. These floors are at present simply a building shell. There is now no provision for the storage of finished books.

2. From a very early stage in the planning it was intended that a Cameron belt press (with the possible later addition of a second press) should be installed to provide the bulk of the book manufacturing capacity in the printing plant. The order for the first Cameron belt press was placed in the late 1970s and the purchase was financed by USAID. Essential ancillary equipment for the production of printing plates was also purchased. The press was delivered to Egypt in 1981 and remained in its shipping crates until 1985. During this time, work on the construction of the building continued, but the press hall, in which the press was to be installed, was not completed. In 1985, as the result of a USAID audit, the press was unpacked from its crates and assembled in what was still an unfinished press hall. At this point it was discovered that the foundations on which the press had been placed were insufficiently strong to support it. The press had then to be disassembled and the floor strengthened. The press was then reconstructed and the manufacturer's agent came to Cairo to complete its installation. Although the bulk of the installation work was carried out in 1986 the press was not commissioned. The manufacturer's agent left a list of twenty items that needed attention before this could be done. These twenty items related to the provision of services to the press and to the completion of the premises in which it was housed. Much of this work has now been

carried out. However, several of the most important items remain uncompleted and it is not yet possible to complete the installation of the Cameron belt press and to put it into production (see Annex 4).

3. Since the time of the purchase and delivery of the Cameron belt press the Central Textbook Agency has purchased and installed four new sheet-fed offset printing machines and several binding machines. These have been placed in the same press hall that houses the Cameron. Many of these machines are in daily production, but the circumstances under which this takes place mean that the output from the machines is severely limited and the quality of the work done is not high.

4. The most pressing problem at the time of writing is that the press hall is not yet in a sufficiently advanced state of completion for it to be wise to operate expensive and sophisticated items of machinery without running the risk of doing them considerable damage. The press hall needs to be hermetically sealed so that as little dust as possible can enter from outside or from construction work that will continue elsewhere within the building. In conjunction with this sealing or dustproofing, the air conditioning system in the press hall must be commissioned. If this is not done, the working conditions in the press hall will be unbearable. As a further step in the control of dust, it would be wise to treat the floor of the press hall with a suitable dust inhibiting sealant. The existing floor of the press hall is tiled. It is likely that these tiles will eventually break up with the passage of heavy loads of paper and finished books. It may be possible to lay a latex type of flooring which will combine the two requirements for strength and dust control.

5. Certain other services in the press hall are also incomplete. These include the cyclone system for the removal of paper waste from the binder portion of the Cameron press, the provision of cooled water to chill rolls of the press, the provision of water to the press hall as a whole and the provision of fire detection and firefighting systems. The driers of the press are fuelled by gasoline and represent a substantial fire risk.

6. The ancillary equipment for the production of printing plates for the Cameron press is to be housed in a mezzanine floor above the press hall. This mezzanine floor is further from completion than the press hall itself. Some floors still need to be laid, windows have to be installed, walls have to be cladded and ceilings have to be constructed. The majority of services are in position but final connections have still to be made. As with the press hall, it is essential that the mezzanine floor should be hermetically sealed so that dust is kept out. Many of the processes that will be carried out on this floor involve the use of photographic materials and these are particularly sensitive to dust. Completion of the air conditioning facilities on the mezzanine floor is an essential adjunct to the process of sealing it from dust. All this work should be completed with a minimum of delay.

7. Thought has to be given to the passage of unprinted paper in reel and sheet form from the paper warehouse to the press hall and of completed books from the press hall. The paper warehouse lies alongside the printing plant and there is an open passageway, approximately 10 meters wide, between the two. Although the press hall has three doors that give on to this passageway, the paper warehouse has none. It is recommended therefore that a door should be made in the side of the paper warehouse so that reels and sheets of paper can take the shortest possible route from storage to printing press. It will also be necessary to pave the passageway between the two buildings and to make sure that materials used and the finished levels are suitable for the use of fork-lift trucks.

8. Apart from the offset printing machines already mentioned above, CAUSB has also purchased an exercise book manufacturing plant from the Will Company of West Germany. This machine, like the Cameron press, spent a considerable time in its delivery crates, but is now being installed. It is housed in a separately bricked off portion of the paper warehouse. As consultants, we were asked to give our recommendations on the positioning of this machine with particular reference to the routes to be followed by incoming reels of unprinted paper and outgoing consignments of finished exercise books. We recommended that the feed end of the machine should be positioned furthest from the passageway between the press hall and the paper warehouse. We also recommended that a second opening should be made in the internal wall between

the main paper storage areas of the warehouse and the area housing the exercise book manufacturing plant. Since it is essential that the finished exercise books are securely stored, we recommended that a portion of the paper warehouse should be bricked off for this purpose. All these building works should be carried out at the same time as work is done on the press hall and mezzanine floors in the manufacturing plant. We understand, however, that CAUSB has not yet taken official possession of the paper warehouse from the contractors and that this has to take place before any further building works can be carried out on it.

9. Once the essential building work on the press hall and mezzanine floor has been carried out it will be possible to recall the Cameron press engineers and to complete the installation of the equipment. In the meantime it is recommended that a technical representative from the manufacturer of the equipment should visit the Giza plant and check the complete Cameron installation (i.e., pre-press, printing and binding). By this means it will be possible to discover if any parts are missing or broken, and there will be sufficient time for replacements to be obtained prior to the completion of the installation of the equipment.

10. The printing equipment that is already in operation represents a somewhat different problem. It is quite possible that this equipment has already suffered from having been run under totally unsuitable conditions. It is clear that the conditions will not improve until the building work outlined above has been completed. In fact, they may well deteriorate. If this is the case, the equipment will be at even greater risk than it is at present. An initial recommendation was made that the machinery should be mothballed and that the staff should be found alternative employment for a period of three to four months, but it is understood that this would prove difficult to achieve. However, it is still strongly recommended that production should be temporarily suspended. If the staff cannot be found alternative employment, it is suggested that training courses should be held elsewhere on the Giza site whilst the building work is completed. The existing printing unit provides only 0.5% of CAUSB's annual requirements for textbooks, and if it were to be closed for a short period, the shortfall could easily be made good by another of CAUSB's suppliers.

11. Completion of the building work on the press hall and the mezzanine floors at the Giza plant involve the coordination of the activities of a number of different contractors. It is the desire of CAUSB that the work should be done in as short a time as possible so that the Cameron belt press can be put into production with a minimum of further delay. At the same time it is essential that the work should be carried out to the highest possible standards and in the most efficient sequence. It is recommended, therefore, that CAUSB should ensure that a skilled member of the team of architects that were responsible for the design of the building is in daily attendance on the site. His task will be to make certain that the various special requirements of both machines and personnel are met and that the work proceeds as quickly as possible.

12. If work on completion of the Giza plant is to proceed as rapidly and efficiently as possible, a project manager needs to be appointed by CAUSB as a counterpart to the skilled member of the team of architects. This person should have ready access to the President of CAUSB, but should be given sufficient authority to enable him to make the majority of on-site decisions himself. It is understood that payment to contractors and consultants has proved a problem in the past. It is to be hoped that a means will be found to avoid this happening during the next crucial months.

13. Once the building work on the press hall and the mezzanine floor are complete, work on the installation and commissioning of the equipment can begin. However, before the Cameron belt press can be started up, certain specific consumable supplies have to be imported. These include film and resins for making the printing plates, special pre-punched plastic belts on which the plates have to be mounted, special double sided sticky tapes, printing ink and binding adhesive. A pro-forma invoice prepared by the European agent for the Cameron press lists the quantities required for approximately one year's output of the press. The total cost involved is $194.276.50 which includes shipment FOB to Trieste. We understand that CAUSB is committed to buying its first supplies of these items from the European agent, but that further supplies can be purchased from whomsoever CAUSB wishes. It is likely that the cost of future supplies will be substantially

lower. It is by no means certain that all these supplies will have to be imported in future. Once CAUSB has gained experience with operating the Cameron press with imported consumable supplies it may prove possible to arrange for local manufacture of adequate replacements. This may well be possible for ink and binding adhesives.

14. CAUSB purchases the bulk of its printing paper from the RAKTA and Ahliya paper mills in Alexandria. (Paper is discussed in greater detail elsewhere in this report.) It is not yet known whether the papers supplied by these two mills will prove suitable for the Cameron belt press. It is quite probable that one or other of the mills will have to make paper to a new specification in order to achieve the best printing quality. In the meantime, it is essential that a substantial supply of suitable imported paper should be available for trial runs and initial production runs on the Cameron belt press. It is understood that this paper has already been obtained and is in Egypt. If, however, this is not the case, arrangements should be made without delay for its purchase.

15. Once work on the press hall and mezzanine floors is complete, the manufacturer's engineers can complete the installation of the Cameron belt press and the ancillary equipment. Wherever possible, the operators who are going to be responsible for day-to-day production should be closely involved in the installation procedures. This should be seen to be an essential part of on-the-job training. Once installation is satisfactorily completed test running can start.

16. Certain of the personnel at Giza have already received some training in the two areas of platemaking and press operation. However, a great deal of additional training is essential if the press is to be run at optimum efficiency. It is understood that the contract for the purchase of the Cameron belt press allows for a skilled technician to remain in Egypt for a period of one year to assist in the operation of the machine and to train its operators. A carefully constructed training program needs to be set up in order to ensure that this technician's time is used most profitably. When the trainer leaves Egypt, there should be two skilled teams at Giza, one expert in

platemaking and the other in press operation. The Cameron belt press will be of most value to CAUSB if it is run on a two (or even three) shift basis. The aim, therefore, should be to form teams of at least 15 persons each.

If the skilled technician who is provided by the manufacturer or the manufacturer's agent is only skilled in press operation, additional technical assistance should be sought. It is likely that this would be in the form of a second expert with specific skills in the camera operation and platemaking. This expert should also stay in Egypt for a period of one year.

17. Day-to-day management of the Giza plant should be in the hands of a team of three managers. There should be a plant manager with overall responsibility. Ideally this person should be appointed very quickly and should act as Project Manager (see para 12 above) during the completion of building work. This would give him an intimate knowledge of the services in the Giza building and would enable him to set up maintenance routines for them.

The plant manager should be assisted by a production manager and a works manager. The production manager should carry responsibility for personnel matters, for the day-to-day production of the plant, and for the quality of the plant's output. The works manager should be a technical specialist and should carry responsibility for the smooth running of the machines themselves.

Since much of the technology involved in the Cameron system is new to Egypt, it may prove difficult to find personnel who are immediately fitted for these managerial posts. If this proves the case, it is recommended that CAUSB should seek technical assistance from abroad to help to train suitable candidates on-the-job. Each of three designated managers should have a counterpart technical expert working with him for a period of up to one year.

18. The equipment that is already installed and running in the Giza plant, and the Cameron belt press represent a very large manufacturing resource. It is going to take at least one year after the completion of building work on the press hall and mezzanine floors before the plant is in full production.

During this time there can be considerable production, but it should be considered experimental. Maximum effort should be put into training and any production that is achieved in the process should be an added bonus.

It is recommended that no additional production machinery should be purchased during this period. Until the machinery that already exists is run professionally and productively, it would be extremely unwise to add to it.

19. The plans outlined above involve the employment and training of a considerable number of managers and operators. A means will have to be found to reward them adequately. If the personnel cannot be properly paid, they will move on to other plants where they can be. Experience shows that this will happen as they complete their period of training. This is the point at which the plant can least afford to lose them. We are aware that better salary levels than those that exist at present in the Giza plant are being paid in public and quasi-public sector printing houses. The same must apply at Giza.

20. If ways can be found to implement the recommendations that we have made, we feel that the Giza plant can become something of which CAUSB can be proud. In the immediate past the will to do this has been lacking. We very much hope that this is no longer the case.

ANNEX 4

TABLE NO. 4
SCHEDULE FOR COMPLETION OF PRESS SECTION & MEZZANINE FLOOR OF GIZA PLANT
1988

ACTIVITY	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.
1. Watching Room for Offset	18		18					
2. Revolving Doors	18		7					
3. Painting for the big hall & mezzanine		20		15				
4. Dust Proofing doors & windows & entrances		20			20			
5. Water connections -- tanks, pumps & toilets		1			1			
6. Airconditioning for printing hall		1			1			
7. Cables -- connecting	25		10					
8. Mezzanine balcony finishing of flooring & carpentry		1				1		
9. Mezzanine false ceiling				10		10		
10. Mezzanine vinyl flooring				10			31	
11. Chemicals warehouse airconditioning, printing & Stairs		1				1		
12. First floor insulation (floor above mezzanine)			1		1			
13. Lights required for production line		1			1			
14. Concrete tiles								

ANNEX NO. 5

Notes to Table 4

Important:

1. The consulting office engineers must exist on site at all times in this important period.

2. The warehouses should be "received" by CAUSB before opening new gates (according to the contractor - EGYCO -) -- An opinion should be made immediately in this regard.

3. Equipment and machines should be moved into the building (mezzanine) immediately before the furnishing process. Receiving system should be checked according to CAUSB engineers.

4. Fire extinguishment system should be submitted immediately by the consulting office so it can be implemented.

5. The consulting office should check the possibility and cost of providing a humidity control system which was found applied in Al Ahram printing press.

6. The consulting office should make a copy of the "KEYS" of the different maps for the CAUSB engineers.

7. Concrete tiles may be replaced by asphalt with no major difference but with major savings (asphalt is about 15% of the concrete tiles' cost) in cost and time. There is a 25 cms. concrete base for this road.

8. If this time table is to be implemented, the consulting office should:

   a. approve prices for item No. 7 (Activity No. 7)
   b. provide drawings for activity No. 13.

9. Problems between the contractor and CAUSB regarding broken windows and doors and other similar stuff should be promptly resolved. The cost of damages are trivial in comparison with machinery and equipment possible damage.

10. AMPHA AMBIANTA & YANED should be contacted immediately by CAUSB to finalize the installation of the cyclone line.

11. YANED should be contacted also to finalize the connections between the different parts and units of the production line.

Time required to complete items 10 and 11 can be estimated by YANED and added to this chart, but we believe they can be done during the same period of the other activities.

12. If paper and other start-up materials arrived in country by June, the Cameron line can be operated before the fall of 1988. The line can be in full operation 9-12 months from that date, i.e., Summer of 1989.

13. Budget necessary for the listed activities is about L.E. 500,000. Funds should be made available to the contractor if this building is to be finished.

ANNEX NO. 6

PROSYSTEM AG

Production Systems for Printing and Finishing

Zollikerstrasse 31
8702 Zollikon-Zurich/Switzerland
Tel (01) 391 38 61
Telex 53443 pros ch (New 23rd April 1987: 816865 pros ch

Service and Engineering
ING E + K. RICHTER OHG
Antonigasse 44-46 P.O. Box 90
A-1181 Vienna/Austria
Tel (0222) 43 16 11 0 Telex 114980 ingr a
Cable address rikama vienna

Messrs.

Central Agency for University and School Books and Educational Aids

Cairo - A. R. E.
==========

1310/mkn. Date July 11, 1987

PROFORMA INVOICE

Material of consumption (material for printing and binding for start-up your Cameron Sheridan Book Production System):

1. Pre-punched Mylar Belt: $ 570 per metre
   Quantity : 1.000 (approx. 3.000 ft) $ 20.37 per metre
   Quality : mylar -01-69-00020
   Price.....US-$ 20.370,-- (134% mark up)

2. Hot Melt: $1.75 - $2.65 per kg in 5000 kg lots
   Quantity : 3.000 kg. $4.096 per kg
   Quality : Ipatherm 522 150
   Price.....US-$ 12.285,-- (134% or 55% mfr)

3. Ink: 2.05 per kg
   a) Quantity : 1.000 kg.
      Quality : Cameron black 9A460 for press
   $ 8.53 per kg
   b) Quantity : 100 kg.
      Quality : Cameron black 9A474 for proof press
   Price.....US-$ 9.386,-- (316% mfr)

4. Tapes:

   Double sticky tapes for splice:
   Quantity : 200 rolls
   Quality : No. 465, 25 mm width

   Price.....US-$ 5.460,--

5. Plate-Making Material:

   a) 150 cans resin
   b) 35 cases base film
   c) 55 rolls cover film
   d) 550 kg wash-out agent (Borax)
   e) 24 cans wash-out agent W-4
   f) 60 bottles DC-544 anti-foam

   Price.....US-$ 139.387,50

CAMERON

PROSYSTEM AG

-35-

Sheet : 2 Date : July 11, 1987 to : Messrs. Central Agency

F.O.B. costs to Trieste, including packing:.....Us-$ 7.388.--

At the total price of :.....Us-$194.276,50

Delivery : F.O.B. Trieste (Italy).

Payment : 100% with unconditioned irrevocable, transferable letter of credit, confirmed by prime Swiss bank.

Delivery time: 6 months upon receipt of firm order and operative L/C.

Partial shipments and transshipment permitted.

Shipping marks : C.A.U.S.E.
Validity : August 31st., 1987

PROSYSTEM AG.

ANNEX NO. 7

The Organization of CAUSB

1. The Central Agency for University and School Books and Educational Aids (CAUSB) has as one of its major tasks the production of a great number of textbooks for the Egyptian education system. In the limited time available to us, we have limited our research into textbooks for primary and secondary schools and for teacher training.

2. CAUSB operates as a print buying and production unit. Orders come to CAUSB from the Ministry of Education. These can be in the form of manuscripts for the production of new titles or simply of instructions to reprint an existing title with only minor alterations. CAUSB places orders with printers, oversees production and arranges for finished books to be delivered to the Ministry of Education warehouse. CAUSB is responsible for the purchase and supply of paper to the printers of its books.

3. Many of the decisions that relate to the manufacturing process have been taken before CAUSB become involved in the production of a title. For example, the trimmed page size, number of colors and approximate number of pages form part of the manufacturing instructions that is prepared by the Ministry. CAUSB has no control over, or even involvement in, the text and illustrations. The reasons for this situation are historic, but it can be understood that it must bring about a degree of frustration in the work of CAUSB's staff.

4. For the school year 1987/88 CAUSB were responsible for producing more than 570 titles. These represented over 90 million books and involved the consumption of more than 40,000 tons of paper. The majority of these books reached the schools on time or even ahead of time. Sixty-six printers were involved in their manufacture, although eight of these produced 80% of the total. For the school year 1988/89 CAUSB will produce more than 800 titles which will represent more than 135 million books.

5. The work that CAUSB is doing under existing conditions is highly praiseworthy. However, it is our opinion that the work could be made easier and the quality of the finished books could be substantially improved if CAUSB could become more involved in the decision making processes. We do not feel that this would result in the overall expenditure having to be increased. In fact, we feel that it might be possible to reduce it.

6. The work of CAUSB divides into two clearly distinct parts. The first is purchasing and the second is production control.

7. Each year CAUSB draws up a list of the prices that it is prepared to pay its suppliers for printing and binding. Printers can either accept or reject the list of prices. Those printers who accept the list and who are approved by CAUSB as potential suppliers can then expect to receive orders. When we suggested that CAUSB should experiment with the tendering system for purchasing printing and binding, we were assured that this would be self defeating, since the printers would confer and would artificially raise prices. There is, however, an increasing over-capacity among the larger printers that CAUSB uses. We are of the opinion that this over-capacity could lead to a lowering of prices if the tendering method were to be introduced.

8. The prices paid to printers in the public or quasi-public sector are 25% higher than those paid to printers in the private sector. (It was explained to us that this was to recompense printers in the public sector for their investment in new equipment. Since this equipment is frequently susbsidized or provided free, and since printers in the private sector have to finance their machinery purchases themselves, we found this explanation very difficult to understand.)

9. Orders for individual titles are placed with those supplies whose equipment is best suited to their specifications. Delivery schedules are agreed upon and the titles are put into production. CAUSB can penalize suppliers in two ways. The first is for non-adherence to the agreed delivery schedule and the second is for poor quality work. Perhaps it would be more profitable to pay bonuses when schedules are adhered to and quality is high.

18. We spent some time looking at the way in which CAUSB staff handle production control. The system is inevitably an elaborate one, bearing in mind the number of titles that are produced annually and the number of printers who are used. Our initial reaction was that quite possibly too much paperwork is being generated and that the same information is being recorded in more than one place. We suggest that CAUSB could benefit from the help of an overseas expert. We suggest that a production director from a large European or American publishing house should be invited to spend at least one month looking at CAUSB's production routines and should make a report on the possibility of simplifying them. There would seem to be scope for the introduction of some form of simple computer assisted production control system.

ANNEX NO. 8

Paper Supplies

1. CAUSB purchased a total of 44,000 tons of paper for the textbooks that were produced for 1987/88. 40,000 tons were for inside pages and 4,000 tons for covers. Since the number of books that are scheduled for production for 1988/89 is more than 40% greater than that for 1987/88, it would be reasonable to assume that CAUSB will need a great deal more paper for them.

2. The two major paper mills that supply the bulk of CAUSB's requirements are both in the public sector and both situated close to Alexandria. They are RAKTA and Al Ahliya. We visited both mills.

3. We were originally informed that RAKTA provides CAUSB with between 90% and 100% of its total requirements and that this represents 80% of RAKTA's entire output of book paper. At the mill itself, although it was confirmed that CAUSB is certainly the largest customer, we were informed that total mill output is 70,000 tons per annum which includes a variety of papers. This means that substantial capacity is being sold to customers other than CAUSB. RAKTA sells its paper to CAUSB at L.E. 1320 per ton for reels and L.E. 1370 per ton for sheets. We were told that this is less than the cost of manufacture and that negotiations are taking place at the moment for an increase in the mill's prices.

4. RAKTA paper consists of 80% of local materials and 20% of imported materials. The local materials are bleached bagasse pulp and bleached rice straw pulp, and the imported materials are soft and hardwood pulp. The bulk of CAUSB's paper is made in a substance of 60 grams per square meter. The paper normally has a good white color, but we have seen considerable variations. It prints adequately by the letter press process on both sheet-fed and web-fed presses although it has poor opacity, a major drawback for textbooks. Printers told us that there is a substantial variation in the caliper of the paper and that loose fibers in the surface can cause problems in printing.

5. When used for offset printing RAKTA paper is far less satisfactory than when used for letter press printing. Web offset printers told us that because of poor tensile strength in the paper, there were frequent reel breaks and that a modern press that should be able to produce 25,000 sections per hour could only produce 12,000 when running with RAKTA paper. Until recently RAKTA have been producing a single grade of paper for CAUSB and this is considered suitable for both letter press and offset printing. This is demonstrably not the case. It is essential that the offset printers, CAUSB and RAKTA should meet to discuss what can be done to improve the printing characteristics of the paper that RAKTA supplies.

6. Paper from the Al Ahliya mill is purchased by CAUSB for printing books in color. We were told that CAUSB buy approximately 10,000 tons of paper of which 2000 tons are supplied in sheets and the remainder in reels. Al Ahliya will shortly be able to produce a considerably larger volume of printing paper and are keen to sell a greater quantity to CAUSB. However, the present selling price of their paper is L.E. 1850 per ton. We were told that the reasons for this are that their paper contains a higher proportion of imported pulp than that of RAKTA, and that they were having to finance a development plan. According to the mill's chairman the price of his paper will be close to RAKTA's when the latter raise their prices.

7. Al Ahliya are at present using all wood-free pulp to manufacture paper for CAUSB. In our opinion it would be a good idea to include a proportion of groundwood pulp in future. Groundwood pulp would improve the opacity of the paper and should also help its printing characteristics. There should also be a saving in the cost of raw materials, although the chairman told us that this would not be very great. The inclusion of some groundwood pulp will make the paper less white, and will cause it to discolor further after a time. We do not see this as a problem since the books normally have a lifespan of only one year. Both mills are able to incorporate groundwood pulp in their papers, but at Al Ahliya equipment allows for a greater percentage than at RAKTA. Al Ahliya are also producing one paper to be used for both letter press and offset. Their paper is similarly criticised by offset printers, and, as with

RAKTA, we suggest that the offset printers, CAUSB and Al Ahliya should get together to discuss what can be done to improve matters.

8. RAKTA have installed computer readouts on four of their paper making machines. These enable the machine operators to monitor paper caliper, grams per square meter and other vital details of the paper as it is being made. At present adjustments have to be made manually on two of the machines, but on the other two these are made automatically. It is to be hoped that this equipment will mean that, in future, RAKTA paper will be far more consistent in quantity than it has been in the past. This should help CAUSB's printers to cut down on paper wastage, to increase machine running speeds and to improve the quality of their finished products.

9. Al Ahliya do not yet have computer controls for their paper making machines. This is unfortunate, since, in our view, Al Ahliya would seem better able to produce the type of paper that would be of most benefit to CAUSB. We recommend that CAUSB should finance the import of a quantity of suitable groundwood pulp to enable Al Ahliya to make experimental tonnages of a range of papers containing different mixes of pulp.

10. In discussions with Al Ahram Commercial Presses, we learned that they generally use imported paper when printing books for their own purposes. They solicit tenders twice each year and import approximately 10,000 tons on each occasion. The varieties of paper that they import are both coated and uncoated white offset printing in substances of 70 and 80 grams per square meter. They have received supplies from Germany and from Korea in recent months. We were told that the price they are paying is U.S. $ 900 per ton, but that they were obliged to pay duty of 30% - 35% on coated paper and of 10% on uncoated. We understand that CAUSB, which also imports a certain amount of paper, does not have to pay duty.

11. The paper mills are supplying paper in a number of different sheet sizes: This includes 70 cm x 100 cm, 72 cm x 114 cm and 66 cm x 86 cm. No doubt there are many other sheet sizes that we do not know about. Elsewhere in this report we recommended that an attempt should be made to reduce the number of trimmed page sizes that are used for Egyptian textbooks. A variety of trimmed page sizes and a variety of different sized printing machines result in a wide range of different sheet sizes. The greater the number of sheet sizes in use, the greater will be the amount of paper that is wasted by printers and binders. Both Al Ahliya and RAKTA have paper making machines with the same deckle -- that is 3.20 meters. This should be kept in mind when interested parties attempt to reduce the number of trimmed page sizes in use.

12. Web offset and web letter press machines have what is known as fixed cut-offs. This means that the sections that the machines print have one dimension that cannot be altered except by cutting paper to waste. We have noticed that many of the web-offset titles that CAUSB produces are trimmed to give a page height of 28.5 cm. The majority of web offset presses that we have seen in use have cut-offs of 63 cm. This means that they are able to produce sections with a page height of at least 29.8 cm. The difference between 29.8 and 28.5 cm represents a wastage of paper of over 4%. If the numbers of books that this wastage applies to are taken together the wastage in tonnage terms must be substantial.

13. At present there is a dispute between CAUSB and its printers which revolves around paper wastage. CAUSB are claiming that the printers owe them between L.E. 16 million and L.E. 20 million for paper that has been wasted or otherwise lost. We are in no position to comment on the rights or wrongs of this dispute, but we can be certain that the quality of the paper supplied to CAUSB's printers, as well as the way in which it is packed, transported, warehoused and handled may combine in such a way as to create an unacceptable level of paper wastage throughout the books manufacturing process.

14. The large paper warehouse that has been built alongside the printing plant at Giza contains a great deal of paper in both sheet and reel. The conditions under which this paper is stored could be substantially improved. Much of the paper has been so badly handled it will be unusable. Paper is stored directly on the floor rather than on wooden pallets. The packages in which sheets of paper are wrapped have, in many cases, been broken open. The dust level is unacceptably high. The warehouse is equipped with ducting, but neither airconditioning nor ventilation is operating. We understand that a great deal of the paper that is used by CAUSB's suppliers is supplied directly to them by the paper makers, or the printers arrange to collect it themselves. We are not clear, therefore, why there has to be such a volume of stored paper and suggest that the need for this should be analyzed.

15. Assuming that as much paper as is at present stored in the warehouse has to be stored there in future, it could be stored far more efficiently. The paper warehouse has a very high ceiling, but full use of this could only be made if it were equipped with racking. At a conservative estimate the usable capacity of the warehouse could be increased three fold with the introduction of racking. This would, of course, involve considerable expense, not least in the provision of elaborate materials handling systems. However, the expenses might be worthwhile if it enabled the Ministry of Education to vacate its old and awkward warehouse in central Cairo and begin storing books at the Giza site.

ANNEX NO. 9

The Cameron Belt Press

1. The Cameron belt press is a letter press printing machine. This means that a raised printing surface is inked and then pressed into contact with paper. In the case of the Cameron press the material that is used to provide the raised printing surface is photopolymer. The photopolymer material is used to produce flexible plates — normally one for each page of the book. These plates are mounted on two plastic belts, each of which prints one side of a web of paper.

2. The web of paper is printed on each side and passes through two driers. It is then slit into smaller webs -- each of them two pages wide. These smaller webs are folded in half and then cut to give sections of four pages each. The sections are automatically gathered together in the correct order to make a complete book, and are then transferred to a binding machine. This machine attaches a paperback cover to the spines of the sections and trims the bound book on three edges. There is no need for any handling between feeding the reel of paper into the machine at one end and taking delivery of the finished book that emerges at the other.

3. The main advantages of the press was as follows:

a) The fact that the press is fed with a reel of unprinted paper and delivers bound books results in reduced wastage of materials and means that the printer's staffing level can be drastically reduced. It is normal for a team of between five and seven persons to run the press.

b) The changeover time from completing the printing of one title and starting the printing of the next can be very short. This depends, however, on the trimmed page sizes and numbers of pages of the two titles concerned.

c) Mounting the photopolymer plates of the pages on the two plastic belts and proofing the pages can be carried out away from the printing machine itself.

d) The press is capable of printing books with a wide range of different page sizes. However, care should be taken to match books with similar page sizes in order to minimize changeover times. The larger the page size of a book, the fewer the number of copies that are produced each hour.

e) The press is capable of printing books with virtually any number of pages, so long as they can be accommodated on the printing belts. However, the greater the page extent of the book, the fewer will be the number of copies produced per hour.

f) As long as the plates of the pages of a book are correctly positioned on the two printing belts, there is virtually no risk that books could be produced with pages in the wrong order.

g) All the pages of a finished book have the grain direction of the paper running parallel to the spine. This helps give strength to the binding and makes the book easier to open.

h) The printing belts can be stored with the plates of the pages left in position on them. This means that it is very economical and straightforward to reprint titles.

i) The press can print both long and short runs economically. Some printers regularly produce as few as 3,000 copies and as many as 150,000. It has, in the main, been sold to printers who use it to produce runs around the 10,000 mark.

4. The main disadvantages of the Cameron press are as follows:

a) The press prints in one color only.

b) The press is able to print text and line illustrations, but, as it is at present configured, it can only print poor quality halftone illustrations. It might prove possible to alter the press to make the quality of its halftones better, but this would not be a worthwhile expense.

c) Binding can only be unsewn. This is a process whereby the spines of the four-page printed sections that make up the book are sewn off. One or two layers of special adhesive are applied to the cut edges of the pages which now take the form of single leaves of paper. A paperback cover or spine lining material is then attached to the spine of the book. If the correct adhesives are used at the correct temperatures, unsewn books can have a substantial lifespan. The quality of the paper used also has a bearing on this. However, sewn books will almost always be stronger than unsewn ones and are certainly better suited to classroom use.

5. Considerable thought has to be given to how best to use the Cameron press for the production of titles for CAUSB. It is our opinion that not too much stress should be placed on the press's versatility. If maximum production is to be obtained, CAUSB should limit the variety of trimmed page sizes that the press is required to produce and should not attempt to produce titles with large page extents.

6. Output from the press is calculated in meters per minute. The machine is geared to run 360 m/min., maximum running speed is considered to be 335 m/min. and average net production speed is 290 - 300 m/min. If the full width of 96.5 cm is used, around 280 square meters of paper printed on both sides can be produced per minute.

7. The number of books that the press can produce per hour is dependent on the trimmed page size and the number of pages of each copy. A book with a trimmed page size of 11.1 cm x 15.2 cm and an extent of 160 pages could theoretically be produced at the rate of 200 per minute, or 12,000 per hour. If the extent is raised to 320 pages, the production rate falls to 100 per minute, or 6,000 per hour. If the extent remains 160 pages, but the trimmed page size increases to 22.2 cm x 30.5 cm the production rate falls to 50 per minute or 3,000 per hour.

8. It is certain that, within the range of books that CAUSB has to produce, there are many titles which are suited to production on the Cameron belt press. We recommend that a thorough analysis should be made of all the monochrome titles produced in 1987/88. This should include page extents, trimmed page sizes and print runs. Once this information has been assembled it will be possible to see which are the most common sizes, extents and print runs and to establish which varieties of work should be earmarked for the Cameron. The most likely types of book are technical/vocational textbooks, teachers' editions, teacher training materials, supplementary reading materials and, possibly, school library books.

9. It is recommended that the suggested analysis should be made before the Cameron press engineer visits Cairo to check the equipment prior to installation. Discussions should then take place between the engineer, CAUSB staff and from Gezira and plant staff from the Giza plant. These should help to define more accurately the type of work most suited to the Cameron press.

ANNEX NO. 10

People Met

USAID:	Jerry J. Wood, Director, Office of Education & Training Peter Kresge, Project Manager Mahmoud Gamal El Din, Project Manager George Laudato, Deputy Mission Director William Gelabert, Associate Mission Director
CAUSB:	Dr. Ezzat Abdel Mawgood, President Mr. Afifi Adel, Director of CAUSB (Deputy of Dr. Mawgood) Mr. Gamal Gad, Director of Production Mr. Mohamed Ibrahem Ghanam, Director of Administrative and Economic Affairs Mrs. Izis Abrahim, Financial Manager Mr. Farouk Birbala, Legal Advisor Mr. Ahmad Kadry, Printing Manager Mr. Abu El-Hassan, Mech. Engineer Mr. Mohamed Tahoun, Head of the Public Relations Dept. Mr. Saeed El-Saadany, Head of the Technical Office Mr. Abdel Moneim, Head of the Implementation Department
Giza Plant:	Dr. Abd El-All El-Shibini, Printing Consultant Mech. Eng. Mostafa F. Ghanem, Operation & Maintenance
Printing:	Eng. Mona A. Elagoz, Printing
Al-Ahram Plant:	Mr. Fathy El-Sharkawy, General Manager
Government Printing Office:	Mr. Ramzy Shaaban, Chairman Mr. A. H. Abdel-Gawad, Undersecretary of State, Chief of Central Administration for Production
National Paper Company:	Mr. Mahmoud Borham, Chairman Mr. Michael Shenouda Azer, Mill Manager Eng. Salama, Mill Manager
RAKTA Paper Company:	Dr. Hassan Ibrahim, Chairman
Equipment Agents:	Mr. Loucas Yallouris, Yaned Graphic Systems Mr. Dieter Paul, ECH Will GmbH Mr. Hussein Shaheen, Youssef Allam Co. Mr. Ahmed Abdel Moety, Director General School Book General Administration
Building Architects:	Atef Rafla
Consultant Engineer:	Dr. George Abou Seif
Sadat Academy of Management	Dr. Ahmed Hussein, Professor of Accounting

ANNEX NO. 11

SUMMARY OF PROPOSED TECHNICAL ASSISTANCE REQUIREMENTS

		Man/Weeks/Months
I.	Giza Printing Plant:	
1.	Cameron Press Engineer Two surveys of one week duration. First survey immediately, second survey two months later.	2 weeks
2.	Printing Consultant to check in progress, liaison with Cameron engineer.	2 weeks
3.	Training Contract with Cameron Press Manufacturer to provide one year training for press operation and plate making. (May have been provided for in original contract.)	2 years
4.	Three Experts to work along designated plant personnel in the following areas: (a) Plant Management (Annex 4) (b) Production Management (Annex 4) (c) Works Manager (Annex 4)	3 years
II.	CAUSB Organization:	
1.	Expert (see Annex 7) to analyze Production Control and Inventory Control Systems make recommendations and introduce simple computer assisted systems.	2 months
2.	Two Senior Staff of CAUSB to be sent abroad to observe methods of purchasing paper, printing and binding.	6 months
3.	To improve Editorial Services, Design, Illustrations and Production of Textbooks:	

a. Feasibility Study to determine what resources are available in Egypt to improve textbook editorial services, design, illustrations and production. Whether it is desirable to add such services to CAUSB, and how that might be accopmplished. Study to include human resources in both, public and private sectors.
Educational Publishing Consultant 2.5 months

b. Depending on the results of feasibility study, and if editorial functions are to be added to CAUSB organization, further technical assistance may be required such as:
Project Editors, Designer, Illustrator, Management Consultant over a number of years.

III Study with Recoommendations of National Textbook Provisiong System, to inclued:

1. Policies relating to and affecting the Textbook provisioning system.
2. Appraisal of institutions presently engaged in program.
3. Present extent of system and plans for its future.
4. How present system is financed and budgeted.
5. Relationship of curriculum development and teacher training to national textbooks.
6. The National Textbook Program and the participation of the private sector in textbook provisioning.
7. Analysis and description of economic choices, options, and alternatives in areas that affect textbook provisioning.
8. Recommendations.

Consultant familiar with textbook provisioning systems in the Third World and industrialized nations with extensive experience in publishing school books. 5 man/months

Timing of Technical Assistance:
Items I, 1-4 as soon as possible to coincide with completing press building and installations.

Items II, 1-3 as soon as possible, to help make CAUSBorganization more effevtive and dedcide on how to provide editorial services to improve textbooks.

Item III, as son as convenient. As explained in the report, this Study could be of major help to government in deciding on the future of the National Textbook scheme, make informed choices and apply its large investment in textbooks to better effect.