EVALUATION REPORT ON THE NCDC/CLUSA OILSEEDS MANAGEMENT O.P.G.

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I. INTRODUCTION

A. Overview of the NCDC/CLUSA Oilseeds Management O.P.G.

India's National Cooperative Development Corporation (NCDC) was established in 1963. It is responsible for the planning and implementation of country-wide programs through cooperative societies for the production, storage, processing, marketing, and sale of agricultural commodities. One of NCDC's most critically important activities--considering India's heavy dependence on vegetable oils in the national diet--is the Corporation's financial and technical assistance to cooperative sector oilseed processing plants. These include some 150 expeller oil mills, 24 solvent extraction plants, 8 rice bran processing plants, 6 cottonseed processing plants, 6 Vanaspati (like Crisco) refineries, and 25 feed mills. From 1965 through 1979 total NCDC investments in such oilseed processing facilities have surpassed US$ 51 million.

The experience of Indian cooperatives in oilseed processing has generally proven disappointing at best; at worst it has been disasterous. Plant construction has suffered from so many delays that the average start-up time for these units is about four years. This problem, coupled with frequent work stoppages causing plants to operate at a fraction of full-capacity, have elevated financial costs on fixed investment to the point that profitable operations have become impossible in most plants. The insolvency of the original plant owners

--many of them primary cooperative societies--has led to the take-over of their facilities by state marketing federations (MARKFEDs) since the state governments were guarantors of the original financing. Other plants in the cooperative sector were built for MARFEDs directly. In either case, apex-level concentration of plant ownership was inevitable because of the huge requirements of the oilseed processing facilities for operating capital and marketing outlets. Nevertheless, the MARKFED operations are generally operated with little or no direct contact with oilseed growers, purchase most of their raw material from non-cooperative sources, and provide few benefits to village-level cooperative society members. The efficiency and profitability of the cooperative oilseed processors continue to be hampered by a wide variety of factors: poorly-fabricated machinery, badly-operated processing plants, lack of adequate raw material supply, fuel and power shortages resulting in frequent work stoppages, casual operating controls following rated capacities set too low by equipment manufacturers, poor inventory management, inadequate and untimely access to operating capital, and others.

To address these problems the NCDC has formulated a 10-year Oilseed Processing Sector Development Program, which is intended to provide technical, managerial, and financial assistance to cooperative oilseed processors on a subsidized basis. NCDC also functions like a development bank, providing investment capital for plant renovation or expansion, rehabilitation loans to consolidate indebtedness, and operating capital loans for so-called "margin money" to be used as collateral for local borrowings at the state level.

CLUSA has been assisting Indian cooperative oilseed processors since 1965 when it assigned Mr. Reed Rexford, a management advisor, to work with the first NCDC-sponsored plants. He was followed by Mr. Harold Rissler (1966-1970), a technical advisor in oilseed processing, during whose tour the number of co-op processors grew from four to fifteen.* The original proposal for the present CLUSA O.P.G. was prepared by Rex Wingard in 1973, just prior to the five-year "tilt period" when India-U.S. relations withered, and had been approved for financing under a USAID task order. The initiative was recovered in August 1978 when AID approved CLUSA's proposal for an OPG of US$ 475,000 (with host-country contributions valued at US$ 282,300) to support the NCDC Oilseed Processing Sector Development Program.**

The grant covers the services of two expatriate advisors on a resident basis in India: (1) a management specialist to assist co-operative processors in the areas of cost and financial controls, information systems, personnel management, raw material grading and storage, procurement, and marketing; and (2) a technical specialist to work on methods for increasing equipment performance and plant efficiency, production of new products, processing of new oil-bearing

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* Rissler's end-of-tour report contains an inventory of problems confronting cooperative oilseed processing plants which remain as current today as they were in 1970. Perhaps prophetically, Rissler argued that the processing sector was acquiring experience very slowly, but that it was difficult to rush things. Citing the U.S. experience, he said American co-ops spent many years in primary processing, slowly developing a strong marketing system and able management, and only then advanced to the secondary processing stage, which India has tried to reach in a single step.

** This grant was the first OPG made by USAIDs in the entire Asia region.

raw materials, and more adequate laboratory controls. Under the OPG agreement the NCDC committed itself to supply each CLUSA advisor with a full-time Indian counterpart. With their counterparts, the CLUSA advisors were to visit cooperative sector oilseed processors, reside at one or more representative plants to identify priority problems to address, develop and test solutions to these problems, train their counterparts to teach these improvements to plant personnel, and prepare an operations manual to facilitate the training of Indian managers and operating staff in the plants. The OPG also called for periodic visits by the U.S. Cooperative Oilseeds Management Advisory Committee to provide selective and specialized expertise, as required.

B. Purpose of the Present Evaluation

As required by the OPG agreement, the present evaluation constitutes a mid-point review of the program's accomplishments. Although initially conceived as a joint CLUSA-USAID evaluation exercise, for reasons of timing conflicts and other constraints it was decided that the study would be made as an internal evaluation by CLUSA only.

The evaluation is to address each major component of the Oilseed Management OPG, namely: (1) Technical Advisor, (2) Management Advisor, (3) NCDC Counterpart Contributions, (4) CLUSA/India

Management of the OPG. For each of these components I will attempt to identify (a) strengths and accomplishments, and (b) deficiencies and suggestions for overcoming them. The concluding section of the report is devoted to a review of the project's end-conditions and performance targets (medium-term) of which several are no longer realistic and merit amendment. Several annexes are included in the report covering (A) Activities Conducted by the Evaluator in India, (B) Persons Contacted in the Course of the Evaluation, and (C) The Khanna Incentive Plan for Employees, which is worthy of wider replication among NCDC-supported oilseed processors.

Fieldwork in India to complete this evaluation was conducted from September 14 to October 3, 1980 following which a first draft of the report was prepared and circulated. On a subsequent visit to India for the evaluation of other programs the NCDC report was up-dated and further revisions made in March 1981. This final draft was completed in the first week of April.

C. Acknowledgements

I wish to express my sincere appreciation to the CLUSA/India Representative, Mr. Rex Wingard, for his guidance and total cooperation with this study; to Mr. Carl Petersen, CLUSA Management Advisor, for his patient replies to my endless questions over a three-week period; to Mr. R.N. Trikha, USAID Program Specialist (Agriculture), who provided technical insights as well as good-natured company over several field trips; and to dozens of other individuals--Indians and expatriates--whose many contributions both large and small helped to strengthen this report.

II. TECHNICAL ADVISOR

A. Background

The Technical Advisor recruited for the program by CLUSA was Dr. Walter P. Gibble, a 64-year-old retired oil chemist. Dr. Gibble received his Ph.D. in Chemistry from the University of Arizona (1955). From 1962-1976 he served as Research Scientist and Senior Chemist at Hunt-Wesson Foods Inc., Fullerton, California. After early retirement in 1976, Dr. Gibble worked as a self-employed industrial consultant in oilseed refining. It is noteworthy that CLUSA experienced considerable difficulty recruiting candidates for the assignment of Technical Advisor in India; Dr. Gibble was the only applicant. However, he was interviewed and approved by senior NCDC staff in the U.S. prior to his subsequent travel to India.

B. Strengths and Accomplishments

Dr. Gibble's technical qualifications in the field of vegetable oil refining are unquestionable. At the end of 19 months in India he had written a voluminous manual on refining methods for vegetable oil. The manual is a solidly professional achievement. It contains seven chapters and 117 pages covering (1) Characteristics of Commercial Oils, (2) Refining Methods (batch, semi-continuous, and continuous), (3) Bleaching, (4) Hydrogenation, (5) Crystalization, (6) Deodorization, and (7) a special chapter on Quality Control in Soybean Processing.

Dr. Gibble's manual also contains 21 technical drawings, 90 technical references or patent citations, and an Appendix which is almost as long (109 pages) as the manual itself. The Appendix covers a variety of problem-oriented subjects including Packaging, Inert Gas Storage of Finished Oil, Procedures for Vegetable Oil Soapstock, Oil Drum Cleaning, Qualitative Tests for Plant Chemists, Development of Special Oil-Based Products, Literature Review on the Problem of Stability of Fats and Oils, Extracts of Private Technical Communication (on soybean oil processing),* Use or disposal of Oil Processing Wastes, and a Glossary of Technical Terms.

The approach attempted by Dr. Gibble in this manual appears to be academically valid, namely: First, to introduce the reader to an understanding of the oil chemistry underlying each refining stage; second, to describe the procedures to be done in the plant or laboratory at each stage; and third, to list references for the reader who seeks additional information. In the hands of an experienced chemist the manual could be potentially quite useful.

C. Deficiencies and Suggestions

The consultant was only able to interview Dr. Gibble for two hours on the last day (September 14, 1980) of the advisor's shortened duty tour

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* According to the CLUSA/India Representative, Dr. Gibble made many important contributions to NCDC and state government (Madhya Pradesh) planning efforts to develop the production and processing of soybean. These contributions, cited in Quarterly Reports, were outside the advisor's OPG scope of work.

in India. Hence, many of the following comments are based on second-hand information that could not be discussed with, or confirmed by, Dr. Gibble.

It was reported to the consultant that Dr. Gibble did not enjoy India. After several initial brief visits to cooperative oilseed processing plants in early 1979, Dr. Gibble virtually terminated all field travel. During his 19 months in India he spent a mere 18 days in the field. He did not make a single plant visit during his last seven months. I was told that Dr. Gibble found field travel unbearably stressful, that he could not cope with breakdowns in communications with Indians, that he was appalled by operating conditions in the plants, that he lectured rather than listened, and that he had little patience or interest in conducting hands-on training of counterparts or plant chemists in the field. Worse still, his technical background was strictly in the field of vegetable oil refining--not expeller or solvent oil extraction--and there is really only one operational vegetable oil refinery in the cooperative sector--the plant at Khanna--which might have profited from Dr. Gibble's knowledge. Yet remarkably, the advisor never visited Khanna, even though it is located only 4-5 hours by car from Delhi and can be reached by one of India's better highways.

In sum, it appears Dr. Gibble was over specialized for his Indian assignment, lacked the interpersonal skills to relate constructively with Indians, and was unwilling to endure the physical discomforts of field travel. For the above reasons it was agreed between the CLUSA/India Representative and Dr. Gibble that the advisor would be more useful by remaining in Delhi to write a manual on vegetable oil refining (answering techni-

cal consultations there) and would refrain from plant visits in the field. Dr. Gibble completed the manual after 19 months in India whereupon his request for early termination was approved.

While it is easy in retrospect to cite deficiencies in the background and performance of Dr. Gibble as a technical advisor, he does not deserve to be held fully accountable; CLUSA must also bear responsibility. The first error was made by CLUSA/Washington in recruiting Dr. Gibble in the first place. It is alleged by CLUSA/W staff that oilseed processing experts available for long-term assignments are extremely scarce, particularly those in mid-career and still young enough to "rough it" overseas. Dr. Gibble, they maintain, was the only candidate available. If that is indeed the case it raises serious questions both about CLUSA's selection criteria for advisor positions and about the institution's ability to mobilize human resources for technical assistance overseas.

The initial error was then compounded by CLUSA/India, which sought to make the best of a less-than-desireable advisor by redefining his scope of work. The initial assignments of the NCDC advisors, as described in the OPG, contained the requirement of extensive field travel. This was absolutely correct for a very fundamental reason. There is no such thing as an outside "expert" whose knowledge is ready-made and appropriate for India. To be effective, outside technicians must first become students of Indian problems and Indian capabilities; they must be increasingly knowledgeable about the local setting in order to "bridge back" to their own expertise and know whether it is relevant and if so, what and where to apply it. Moreover, this

learning must never stop, as it did in the case of Dr. Gibble. In the opinion of the consultant, learning about the oilseed industry in India must predominantly occur outside Delhi. That is where the oilseeds are grown; that is where the processing plants are located; that is where most of the industry's problems are manifested on a day-to-day basis. I therefore believe that the advisor who does not travel frequently to the field is the advisor who has stopped learning. And this is also why I believe that Dr. Gibble's Manual of Vegetable Oil Refining will never be intensively useful to Indian cooperative processors.*

SUGGESTION: In recruiting candidates for future advisory positions overseas, CLUSA should avoid conducting its search only among highly-specialized professionals. Individuals without advanced degrees (possibly even without college educations) may still offer the experience and skills required to be effective advisors. Consideration should be given to plant managers, production supervisors, and similar personnel with hands-on operating experience. Candidates from both outside as well as within the U.S. cooperative movement should be considered. Since highly skilled technicians are not likely to be readily available for long-term overseas assignments, they should be recruited for intensive short-term assignments that provide back-up to less qualified long-term personnel. Finally, no candidate for a CLUSA advisor should ever be selected--regardless of his technical qualifications--if he does not demonstrate good interpersonal skills. In particular, he must be a good listener, be humble about what he knows, demonstrate patience, and have a good sense of humor.

SUGGESTION: CLUSA/Washington should require--and CLUSA country representatives strictly enforce--that all advisors engage in extensive field travel. This expectation should be made clear at the outset of the advisor's duty tour. Each advisor's job description should make explicit what kinds of field activity he will be conducting, for how long, with what frequency, and with what kinds of counterparts. It should also be made explicit that the long-term advisor is expected to refrain from "advising" during an initial period of, say, 3-6 months (call it his "in-country training") during which time he will be paid to learn, a student of local practices.

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* I regret to say that on the point of frequent field travel by CLUSA advisors, my views are not shared by the CLUSA/India Representative. Rex Wingard also disagrees with my prediction regarding the usefulness of Dr. Gibble's manual.

III. MANAGEMENT ADVISOR

A. Background

The Management Advisor recruited by CLUSA is Mr. Carl V. Petersen. Carl holds a B.Sc. in Agriculture from the University of Minnesota. Born on a small farm and having operated his own spread from 1963 to 1971, Carl likes to describe himself as a "dumb dirt farmer". He also has two years of experience teaching vocational agriculture, which serves him in good stead when he gets down to hands-on training encounters with Indian counterparts. From 1971 to 1978 Carl worked for Dawson Mills (Soybean Processor), first as a Manager of Personnel and Public Relations, then as a Manager of Edible Soy Products Division. He is 49 years old.

B. Strengths and Accomplishments

Everything CLUSA or India may have lost with the performance of Walter Gibble, it recovered--and more--with the performance of Carl Petersen. As luck would have it, Carl has a very rich applied technical background in mechanics, as well as extensive management experience. He understands basic processing chemistry, knows the ins and outs of several generations of oilseed processing equipment, is handy with tools, is an excellent problem-solver, and is almost ideally suited by his temperament for person-to-person, hands-on, applied technology training. His small farm background gives him a unique

perspective: farming equipment and conditions seen in today's India he remembers being the same back in rural Minnesota of 20, 30, and 40 years ago. But most important, Carl has a great deal of respect for human beings. He is a good listener and a skilled conversationalist. He likes to laugh, hug people, clap them on the shoulders, kid them, and otherwise demonstrate his enjoyment of their company. He has an insatiable interest in, and sensitivity for, Indian customs, food, and language. In sum, Carl is both CLUSA's management and technical advisors rolled into one individual.

As a development practitioner and consultant I have worked in the third world over 14 years and have dealt with hundreds of Americans attempting to assist the rural poor--Peace Corps volunteers, businessmen, bureaucrats, scientists, and other consultants. But in my opinion I would rate Carl Petersen among the five most effective expatriates I have ever worked with.

Carl gets to the field. He has personally visited over 12 cooperative processing plants, selecting five of them for frequent repeat visits and intensive technical assistance in their operations. In 1979 he spent a total of 39 days in the field distributed over 10 separate trips. In his first eight months of 1980 he has spent 44 days in the field, averaging over four days stay at each plant visited. In so doing he is apparently the first CLUSA advisor to

have spent so much time at the plant operations level, and to have become thoroughly familiar with the engineering limitations as well as potential of existing processing equipment. Some of Petersaen's discoveries constitute extremely important break-throughs toward achieving greatly increased efficiency and profitability. And he has apparently just scratched the surface. Because of their significance, several of Carl's innovations will be described below.

1. Efficiency Improvements: Anand Cottonseed Plant

DELINTING: By adjustments to delinting saws, and by increasing the frequency of saw blade sharpening, Petersen helped Anand to increase lint recovery from 4.25% to 5.6%. This seemingly miniscule improvement represents an increase of 469.8 tons of lint recovery per year. At the current price of Rs. 1,600 per ton of lint, the additional income generated by the improvement amounts to 7.5 lakhs (US$98,900). With further improvements in equipment operating practices, Carl expects to increase lint recovery to 8.75% and raise through-put from 70 to 150 tons per day. This would result in an additional 1,096 tons of lint recovered valued at 17.5 lakhs (US$230,000).

EXPELLER OPERATION: The worm or screw configuration on each expeller was changed and through-put increased to 160% of rated capacity. As a result, five expellers are operated instead of seven, which results in a savings of electricity alone of 1.6 lakhs (US$ 21,134),

not to mention additional (unmeasured) savings in steam, labor, and maintenence costs. The idled expellers may now be used for groundnut processing, and the Anand cooperative society has applied for a licence for this purpose.

SOLVENT EXTRACTION: The solvent plant was rated by the manufacturer (Servotech/India) at 100 tons per day of expeller cottonseed cake. By increasing and maintaining the temperature in the extracter, keeping pressure stable, replacing seals, and other minor adjustments, Petersen has successfully operated the extracter at 240 tons per day without any capital expenditure. In Petersen's absence Anand operators have been able to maintain capacity at 190-200 tons per day. Increased capacity has resulted in a reduction of 2.1 liters per ton of Hexane consumption, 18 liters per ton in fuel oil, and 11 kilowatt hours per ton in electricity. Collectively the value of these savings on an annual basis amounts to 7.9 lakhs (US$104,000).

2. Efficiency Improvements: Gidderbaha Cottonseed Plant

DELINTING: Lint recovery has been increased from 4.6% to 6.0%, resulting in 176.4 additional tons of lint valued at Rs. 2.8 lakhs (US$37,000). Petersen believes lint recovery can be raised to 9% in the near future.

EXPELLER OPERATION: By altering the worm (screw) configuration, through-put increased 150%, two expellers were used instead of three, and power consumption was cut in half. Remarkably, each of the remaining expellers used less power (36 KWH instead of 46 KWH) than they did at far lower initial capacity. Savings on power amounted to RS. 65,862 (US$8,662).

SOLVENT EXTRACTION: The manufacturer's rated capacity was 60 tons per day, but Petersen demonstrated the plant could operate satisfactorily at 120 tons per day. This resulted in a 1 liter per ton reduction in hexane solvent used, and 50% reductions in coal and electricity consumption. At the time Petersen conducted his test, the Gidderbaha plant had requested financing from NCDC for expansion to a 150-ton capacity at an estimated investment of Rs. 80 lakhs (US$ 1,050,000). In the wake of the Petersen experiment the desired 150 ton capacity was achieved with a modest investment of only Rs. 10 lakhs (US$131,000).

3. Efficiency Improvements: Vijayawada Rice Bran Plant

SOLVENT EXTRACTION: The vijayawada plant approached NCDC for financing of Rs. 29 lakhs (US$380,000) to expand their solvent extraction capacity from 30 to 50 tons per day. Petersen's counterpart at NCDC, Mr. B.S. Shekhwat, suggested they do a capacity test. With

the purchase of only Rs.200 worth of pipe, combined with adjustments to steam pressure, heat, and other operating conditions, the extraction facility's capacity reached 67 tons per day. Its actual capacity was even higher--90 tons per day--but this level could not be sustained because the pellet mill which feeds the extracter has not yet gone beyond 45 tons per day. On a return visit to Vijayawada in the near future, Petersen estimates he can raise pellet mill capacity to 75 tons per day with a maximum expenditure of Rs.1,000 in spare parts. Meanwhile, in addition to having economized 29 lakhs worth of new investment in fixed assets, experiments by Shekhwat and Petersen have resulted in a 3 liter per ton reduction in hexane, 200 kilos per ton savings in coal, and 13 kilowatt hours economized per ton of rice bran.

4. Counterpart and Plant Personnel Training

At different times Petersen has conducted his plant visits with a variety of NCDC counterparts. Shekhwat accompanied him on 17 of 39 days in the field in 1979 and 16 of 44 days so far in 1980. Ramanathan accompanied Petersen on 13 days in 1979 and 2 days in 1980. A third NCDC counterpart--S.M. Batra--accompanied Petersen on a five day visit to Gidderbaha in 1980. Of the three, Shekhwat is the only counterpart who fully understands Petersen's experiments and has the technical skills to duplicate them.

Gradually the managers of half a dozen cooperative oilseed processing plants have been exposed to Petersen's experiments and have made

some effort to implement his suggestions. It took a while to "break the ice", Petersen admits. But with every repeat visit Carl proves his sincerity and improves his credibility with plant personnel. For Carl the bottom line of every innovation is its profitability. It must either increase income or decrease fixed/operating costs per ton of raw material processed. This has made Carl increasingly popular with plant managers, for whom his suggestions mean money-in-the bank. Petersen receives frequent letters requesting follow-up advice between visits. When in New Delhi his office usually has several visitors per day from the field.

In addition to direct training of Indian counterparts and plant personnel, Petersen has urged them to begin assisting each other in training operating personnel. At Petersen's suggestion the Punjab MARKFED sent a plant engineer and a senior operator to study plant operations at Anand for a week. One technician from Darmavad (Maharashtra) has spent three months "training" at Anand on an NCDC scholarship. As operating conditions in Petersen's 4-5 "model plants" are increasingly up-graded, it is inevitable that these informal training activities within the cooperative oilseed processing sector will become more frequent.

5. Contributions to the NCDC Plant Operations Manual

In May the CLUSA/NCDC Oilseeds Advisory Committee met to determine a definitive format for an operations manual, as required by the OPG. The meeting produced a 13-chapter outline, as follows: (1) Project

Construction Management, (2) Raw Material Procurement and Movement, (3) Storage and Inventory Control, (4) Production Planning and Control, (5) Process Efficiency and Control, (6) Quality Control, (7) Cost Accounting, (8) Finance, (9) Organizational Structure and Personnel, (10) Management Information and Reporting, (11) Marketing, (12) Member Relations and Services, and (13 Board/Management Relations. The distribution of writing responsibility for these chapters was noteworthy: Indian counterparts--chapters 7, 8, 11; Rex Wingard--chapters 1, 13; Walter Gibble--chapter 6; Carl Petersen--chapters 2, 3, 4, 5, 9, 10, 12. The manual is now complete and Petersen wrote over two-thirds of it, demonstrating once again that he is a man of unusual productivity.

However, let us not overemphasize the importance of the written manual. To begin with it is not a permanent document but rather, in loose-leaf form, will be added to and subtracted from for years to come. Secondly, the manual will serve as an adjunct to live, on-the-job training in selected "model" processing plants. Here Indian plant managers and key operating personnel will become acquainted with processing facilities that run 300 plus days per year, that utilize their equipment at or above their rated capacities, that demonstrate above-average savings in fuel and hexane (solvent) consumption, that utilize timely quality control, that run under tight management, and above all are operating profitably. So far, Petersen has assisted at least four plants to achieve these characteristics. They cover groundnut, cottonseed, rice bran, and soybean processing operations. Each plant is becoming a future classrooom--a living manual.

C. Deficiencies and Suggestions

The very success of Petersen's performance to date--both as a management and technical advisor--draws attention to the OPG program's extreme vulnerability. Petersen's tour has been extended through April 1981, but were he to leave India at that time there is little liklihood that the OPG program would reach its objectives. There does not yet exist an adequate basis for continuity of training activities by NCDC nor are many operating improvements at the plant level yet fully demonstrated. Several of the model plants are still below their full potential in terms of operating efficiency; it is yet somewhat premature to use them as classrooms--or living manuals, as it were--for on-the-job training of plant managers and other personnel. At this moment there is not more than one NCDC counterpart--Shekhwat--sufficiently experienced with the introduction of plant efficiency innovations that he could replace Petersen, or conduct plant-based training. A cadre of six Indian trainers was to have been established by this time, according to the OPG.

The CLUSA/India Representative has requested that Petersen's tour of service be extended by six months, and that the grant period itself be extended through February 1982 to allow sufficient wrap-up time as well as a more complete final evaluation. The consultant totally endorses the necessity and rationale of these extensions. However, it remains questionable whether a six-month extension of Petersen's tour would be sufficient. Two possibilities present themselves. Petersen has been asked by the National Dairy Development Board (NDDB) to accept a two-year assignment as an advisor to their Oilseed Growers Cooperative Project (OGCP). If Peter-

sen accepts this assignment he would theoretically be available for continuing short-term assistance to the NCDC in both developing model plants to a state of higher efficiency and in teaching NCDC and NDDB counterparts how to teach operating improvements to plant personnel. The second option would be that if Petersen leaves India by July 1981, he would be hired by CLUSA as a consultant for one or more short-term (1-2 month) follow-up visits to India to assist with the training of plant personnel. In any event, the elaboration of a detailed training program plan must be completed in the near future before Petersen's departure from service with the NCDC. Such a plan, according to the CLUSA/India Representative, will be developed in April as a joint exercise between NCDC and CLUSA staff.

The primary reason Petersen remains indispensable is because he has not had adequate NCDC counterpart participation in his fieldwork. At the time the original evaluation was made (September 1980) Petersen had made 10 field trips covering 44 days, of which he was accompanied by an NCDC counterpart on only five trips totaling 21 days. The advisor is personally quite aware of the implications of this problem and has made every effort to get NCDC to assign counterparts for field travel. There are a variety of reasons for faulty compliance by NCDC. The most important stems from a basic misunderstanding between CLUSA and NCDC at the outset of the OPG as to the latter's counterpart obligations. CLUSA's expectation was that NCDC counterparts would be assigned full-time to each advisor; NCDC understood their commitment to be part-time on an as-available basis. To complicate matters, NCDC has launched preparations for a massive soybean development and processing scheme with financing from the European Economic Community and other donors. This has distracted large amounts of staff atten-

tion away from the processing of conventional vegetable oil materials--like groundnut, cottonseed, and rice bran--which is what Petersen has been addressing, even though he is most familiar with soybeans. For his own part, the attention of the CLUSA/India Representative has also been distracted away from the Oilseeds Management OPG because he has had to address on a full-time basis problems arising out of the NDDB project. Thus, the problem of Petersen's inadequate NCDC counterpart support has simply not received the attention it deserves.

SUGGESTION: Now that NDDB-related issues are largely resolved, and as part of the process of formulating a detailed training plan by NCDC and CLUSA personnel, it is critical that the CLUSA/India Representative give immediate attention to the need for Petersen to receive maximum NCDC counterpart participation in his fieldwork with selected "model plants" for the duration of his duty tour. Obtaining such participation is now more the responsibility of Wingard than of Petersen because it requires a significant reassignment of NCDC staff resources which can only be authorized by NCDC's highest decision-makers. As part of the intensification of attention to the Oilseed Management OPG, Wingard should urge that the NCDC/CLUSA Advisory Committee meet on a monthly basis from now until the end of Petersen's tour.

SUGGESTION: USAID/India should immediately approve an extension of Petersen's service tour for a six month minimum period, together with a budget amendment to the OPG sufficient to finance this extension. The budget amendment should include aufficient funds to allow Petersen to accompany the NCDC study team on its forthcoming visit to the U.S. (see below).

SUGGESTION: Beginning in the second quarter of 1981, CLUSA is planning for a team of NCDC oilseed technicians to visit the U.S. for a study/in-service visit of oilseed processing plants, particularly soybean operations. If such a visit begins prior to the end of Petersen's tour it will be counterproductive because it will remove from India some of the very counterparts the advisor is trying to train as part of a cadre of future trainers. It is therefore suggested the U.S. visit be postponed until after mid-1981. It is also suggested that Petersen be asked to accompany the Indian technicians on their U.S. visit to assist host plants in providing their visitors with the most relevant and practical training possible. Such a trip by Petersen could be arranged as an add-on to his home leave or end of service.

IV. HOST-COUNTRY CONTRIBUTIONS

A. Strengths and Accomplishments

In general the NCDC has honored all its commitments to the Oilseeds Management OPG, at least as it understood them to be. It has provided the CLUSA advisors with counterparts, although not on a full-time basis. It has facilitated the travel of CLUSA advisors to the field, assisting with air connections, use of automobiles, contacts with state government officials, communications with plants, and other services. NCDC has provided each advisor with a car and driver. It has cooperated in obtaining the exoneration of the advisors from payment of Indian income taxes. It has provided them with office space, furniture, and secretarial services.

Because the cooperative sector's oilseed processors are fundamentally MARKFED operations--i.e., large-scale plants tightly controlled by state governments--and created because of the large needs for working capital and management back-up in the oilseed industry, these apex-level cooperative institutions often resemble heads without a body. In many cases they are out of touch with oilseed growers at the village level; they are generally indifferent to the need for offering these growers price incentives or patronage refunds which would encourage more reliable oilseed production and generate income benefits for the rural poor. It is therefore most encouraging to note that NCDC has recently initiated a pilot "Groundnut Extension Scheme" which is being introduced at five plants: Hardoi (Uttar Pradesh), Fatenagar (Rajasthan), Ananthapur (Andhra Pradesh), Karimnagar (Madhya Pradesh), and Rajkot (Gujarat). This scheme will sponsor the services of oilseed extension supervisors--employed by co-op processing plants--

who will demonstrate improved production practices, facilitate supplies of improved seed and subsidized fertilizer to small farmers, and will help coordinate village-level marketing arrangements for raw materials sold to the sponsoring cooperative processor.

The consultant was also impressed with the initiative of the MARKFED Vanaspati Processing Unit at Khanna (Punjab), which has set up a successful incentive scheme for plant workers. Under this scheme the base target production level was set at 1,200 tons of refined oil per month. For every 50 tons of production increase above this level, every employee in the plant--from General Manager to lowest machine operator --will receive a day's wage. The scheme has been in operation for three years. It paid 30 days of extra wages in 1978-9, 41 days in 1979-80, and in the first two months of the 1980-1 fiscal year has generated 8 days of extra wages. Credit for implementing the scheme must go to M.S. Sidhu, NCDC's Director of Oilseed Processing, because he was the Khanna plant's General Manager when the incentives scheme was first introduced. The scheme is reportedly spreading to other MARKFED processors in the Punjab. Because of its potential benefit to still other co-op processors, the full text of the Khanna scheme's feasibility study has been included in Annex D.

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* It is noteworthy that Dr. Gibble urged NCDC to promote an incentives scheme among oilseed processors. Gibble's idea consisted of a kind of annual award for the most successful plant manager. The Khanna scheme seems to be a more complete idea because it rewards <u>all</u> employees of a successful plant.

B. Deficiencies and Suggestions

NCDC's failure to provide Petersen with a full-time counterpart has already been mentioned. It is worth mentioning, however, that even when Petersen is assigned a counterpart, the latter's ability to learn problem-solving skills from the CLUSA advisor is sometimes hampered by NCDC regulations. For example, neither Ramanathan nor Shekhwat are considered senior staff and hence do not enjoy air travel rights in the field. Thus, while Petersen may fly to Anand (Gujarat), his counterparts must take the train. In some cases Petersen's colleagues actually spend more time traveling to a site than they spend at the site itself. The counterproductive implications of NCDC's travel policy in this case are self-evident.

The consultant also observed a tendency for NCDC senior staff to place too much importance on the forthcoming Operations Manual and insufficient attention to advance planning for how the manual, once completed, might be utilized. In asking several people for their plans to guarantee continuity and transfer of Petersen's expertise, the standard reply was: "...once the manual is complete we will plan accordingly." This view is nearsighted for two reasons. First, training on an ad hoc basis has already begun before the publication of the manual; and such training is vital to testing the validity of the manual's content before it is published. Second, under the testing of experience, once the manual is published it will quickly begin to be obsolete, requiring continuous up-dating. In other words, the manual should be viewed not as a final product but rather as a process. And the critcal issue is not

what the manual says but how the manual is used. Who will be the intended users of the manual? Is it for general managers only, or are plant operators and co-op directors to be included as its readers? What level of simplification will be necessary for the least-educated clients of the manual to understand its content? Is one large document contemplated or a series of smaller, specialized manuals to be used? Answers to these questions should be clear before the manual is written, not left to be resolved after publication.

SUGGESTION : NCDC senior staff is urged to make an exception in operating regulations which will permit counterparts to CLUSA advisors to travel by the same means of transportation as the latter.

SUGGESTION : It is possible that by the time this evaluation report is written, rotations and changes in NCDC senior staff will have occurred. In such an event, the new officers will possibly be completely ignorant of the purpose, objectives, and other details of the Oilseeds Management OPG. The CLUSA/India Representative is urged to make a special effort to "brief" all NCDC senior staff newcomers in the characteristics of the OPG program, and to make sure a monthly meeting of the Oilseeds Management Coordinating Committee does occur on a routine basis.

SUGGESTION: It is suggested that the proposed Operations Manual be reviewed once again between CLUSA and NCDC to discuss and define who its primary users will be, what level of simplication will be required, and whether the manual will be subdivided into more specialized mini-manuals. The consultant recommends that the manual be divided into four specialized divisions or mini-manuals: one for the plant's Commercial Division, one for the Production Division, one for the Administrative Division, and one for the Quality Control Division. Furthermore, it is suggested that the manual be published in a loose-leaf format (ring binder) which facilitates the removal of old pages and the introduction of new material. Such a format dramatizes the important concept that the manual is a continuing activity whose content must always be adapted to changing circumstances.

V. THE C.L.U.S.A./INDIA REPRESENTATIVE

A. Background

The CLUSA/India Representative is Mr. Rex Wingard. He holds a degree in Rubber Technology from Akron University (1942), did graduate work in Biochemistry and Engineering at the University of Michigan (1948) and is a registered Professional Chemical Engineer. After occupying various positions in the field of oil processing engineering, with specialization in plant design, Mr. Wingard became the Vice President and an owner of Davidson Kennedy Associates (1956), a firm that builds industrial plants. When DKA sold out to the Austin Company in 1961, Wingard spent the next decade running former DKA operations as a profit center for Austin, which is currently the second largest engineering firm in the world. It was here that he acquired extensive experience as an international management consultant serving the food processing industry. Hence, Wingard's skills cover a broad technical spectrum: plant design, feasibility studies, plant construction and start-up, equipment research and development, and management consulting in food processing.

Wingard first came to India on a fraternal visit sponsored by CLUSA. He returned in 1973 on an 18-month CLUSA contract which has been indefinitely extended to the present. Over the years he has managed to visit most of India's oilseed processors, co-op and private, and for several

has provided them with free consulting services in advising choice of equipment and reviewing specifications and bids. Wingard's acquaintances with India's cooperative leaders are many, and he is widely respected by them. During the "Tilt Period" (1973-1978) the CLUSA Representative served as a communications liaison between the U.S. Embassy and GOI officials when both sides had difficulty making direct contacts. The knowledge of India which Rex carries about in his head, but is nowhere in CLUSA files, is impressive. He has an astonishing number of friends and contacts. Along with Allie Felder, the only long-term CLUSA predecessor to Wingard, he has been largely responsible for consolidating and legitimating CLUSA's role of technical assistance to the Indian cooperative movement. Rex is 59 years old.

B. Strengths and Accomplishments

Both Walter Gibble and Carl Petersen expressed deep appreciation and praise for Wingard's excellent logistical support of their efforts. The families of both advisors were housed and nourished generously in the Wingard home until they were able to find their own housing. The CLUSA office gave prompt support, and Wingard his personal attention, to many of the advisor's problems with obtaining documents, clearances, and permits; in addressing problems with their landlords; in resolving tax problems, arranging for R and R, and many other services.

The consultant, like so many TDYs before me, was a direct bene-

ficiary of Wingard hospitality. Having spent a week in their home I experienced first-hand that the Wingard residence is truly a magnet for both outsiders and resident expatriates, as well as many Indian citizens. It is apparent that over the years many serious issues have been resolved, ideas launched, and political contacts established over drinks and dinner at the Wingard residence. In this sense both Rex and Marilyn Wingard are 24-hour CLUSA Representatives. Their home belongs to everybody.

Rex Wingard has written two important chapters for the Oilseeds Operations Manual. The first is entitled "Establishing the Unit" (Construction Management) and contains information on (1) conducting plant feasibility studies, (2) obtaining investment financing, (3) meeting legal formalities, (4) principles of effective construction management, (5) monitoring construction implementation, (6) management controls, and (6) presents formats for required working documents. The consultant was unable to review Wingard's second chapter, which addresses the subject of Board/Management Relations.

Having reviewed the Representative's quarterly and annual reports for the Oilseeds Management OPG, I consider these documents to be quite concise, well-organized, punctually-submitted, and generally adequate for purposes of monitoring grant performance against achievement indicators contained in the basic OPG document.

C. Deficiencies and Suggestions

As the CLUSA/India Representative, Rex Wingard has direct administrative responsibility over not only the Oilseeds Management OPG but also a $204,000 Program Development OPG, a $375,000 Technical Assistance OPG to the NDDB Oilseed Growers Cooperative Project, and is ultimately accountable to USAID for a huge $160 million donation of PL480--Title II vegetable oil commodities to the NDDB to finance the OGCP. The magnitude of the last-named activity completely dwarfs all other program activities of the CLUSA Office in India. Even under normal circumstances it would be expected to consume the predominant share of the Representative's attention. But the NDDB project has not enjoyed normalcy; in fact it has generated considerable controversy. It has been the subject of one large and punitive audit, almost continuous meetings and correspondence with USAID to discuss procedural issues, monthly field inspections, and mammoth cable traffic with the U.S. As such the OGCP has become an almost permanent distraction of the energies and attention of Rex Wingard. Overly-adsorbed in this huge project, the Representative's other program responsibilities have suffered from inadequate attention.

The Oilseed Management OPG displays several signs of Wingard's neglect. He never accompanied either Gibble or Petersen on a field trip or plant visit. He has not maintained periodic, routine contacts with senior NCDC staff to discuss the work of the CLUSA advisors, the adequacy of NCDC counterpart participation, and other matters. As of the consultant's first visit to India in mid-September, the NCDC/CLUSA Oilseeds Management Advisory Committee had not met in three months (since May). But perhaps the biggest loss for

the OPG has been Wingard's very limited involvement as a technician. He is a qualified edible oil processing engineer with extensive experience as a management consultant to the food processing industry. Yet in two years his technical contributions to the Oilseeds Management OPG have been minimal. He has contributed two chapters to the Plant Operations Manual, participated in a couple of meetings to discuss NCDC projects for soybean processing, and attended a two-day NCDC/CLUSA Cooperative Oilseeds Processing Workshop held in January 1980. Keeping a technician with such impressive credentials as Wingard fully adsorbed in administrative tasks is like shooting flies with a cannon.*

A number of factors which appear to perpetuate Wingard's under-involvement in the Oilseeds Management OPG can be mentioned. First, the Representative has scaled down the breadth and frequency of his field travel compared to previous years. Before he traveled throughout India; today he concentrates on brief visits to Gujarat, headquarters of the NDDB project. This pattern reinforces his over-involvement with NDDB and

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* I asked Wingard to describe for me what would constitute an ideal use of his technical skills, provided he had the time. He suggested (1) getting acquainted with existing plants to understand their equipment deficiencies and needs; (2) assisting in the choice of technology for new plants; (3) working with equipment suppliers to improve the engineering of their products; (4) identifying technologies for the processing of materials that substitute for conventional oilseeds; and (5) designing first-of-a-kind plants. It is important to draw a distinction between what Wingard might do and what Petersen is actually doing. Wingard's expertise is very much on the "up-front" side of processing engineering; once equipment is installed and sanctioned, his contribution end In contrast, Petersen's skills are directed to in-process operations, i.e., making the best of equipment already installed to improve profitability.

limits his exposure to NCDC operations, which are nation-wide. Restricted travel, in the consultant's view, also hampers the Representative's opportunities for continued learning about the Indian oilseeds industry, and hence for broadening his own expertise to become more useful to that industry's needs.

Second, by spending a disproportionate amount of his time at his office in Delhi, Wingard has become over-exposed to the administrative demands which drain-off so much of his time. The Representative's very presence in the office causes more decisions to be referred to him. This hampers his delegation of authority and a more rational distribution of administrative taskwork to other staff of the CLUSA/India office. By the same token, Wingard's almost continuous presence in Delhi automatically makes him a target for ever-increasing USAID claims on his time through phone calls, meetings, and correspondence. The sheer volume of letters and memos that currently pass between CLUSA and USAID is, in the consultant's opinion, quite excessive for parties located in the same city. I personally believe that frequent field travel by the Representative is not only a prerequisite for continued learning but is also imperative to maintain program operating efficiency. As such, field travel should be a routine activity, scheduled in advance on a monthly basis, and assigned highest priority.

Third, the Representative favors a relaxed, open-door style of program operations. Although the style has its advantages, it can be easily overdone. Wingard seems to have an unlimited supply of time to spend with visi-

tors, and his unfettered accessibility encourages dozens of interruptions in the course of the day. The physical co-location of Rex Wingard's office beside that of John Wingard, the NDDB Project Officer, is in my opinion not advisable. A mere distance of about eight feet (through a usually open door) divides their respective desks. This proximity jeopardizes the son's decision-making autonomy and creates a continuing temptation for the father's over-involvement in his project.

Another aspect of the Representative's relaxed management style involves his lack of a written monthly plan--posted for the benefit of other CLUSA staff and outsiders--which schedules time for all his program responsibilities on a routine basis. Wingard appears to prioritize the use of his time from one day to the next, taking things as they come, more frequently reacting to events created by others than anticipating or creating events himself. Nonetheless, the Representative is a well-organized administrator. With the help of a little red appointments book he definitely controls and schedules his activities. But this little red book is a personalized management tool, his use of it is somewhat secretive, and it helps to promote rather than diffuse the concentration of authority in his hands. It should be remembered that for most of the last nine years Wingard was the only CLUSA staff member in India, and his management style reflects this fact. But in the last two years the staff and responsibilities of the CLUSA/India office have changed sharply, such that the management practices appropriate only three years ago must now be modified to fit new demands.

A final deficiency area concerns CLUSA reporting procedures, and to a lesser degree, how it preserves its collective memory through a filing system. The Representative has been lax about requiring field trip reports from his advisors on the Oilseeds Management OPG and from U.S. visitors under the auspices of the CLUSA Cooperative Oilseeds Advisory Committee. Looking through the office files it is rather difficult to establish an "audit trail" on the activities of CLUSA staff members from month to month, with the exception of the NDDB project. Neither Gibble or Petersen were required to submit reports on their field trips nor monthly reports on their activities. Likewise, the consultant found it virtually impossible to evaluate the contributions to the OPG by visitors from the U.S. cooperative movement because these gentlemen left such scanty written comments about their activities in India.

SUGGESTION: The Representative's apparent over-involvement in the NDDB project has hampered satisfactory compliance with his full program responsibilities as well as the timely use of his technical skills. It is suggested Wingard explore ways of partial disengagement from NDDB such as (1) assignment of greater decision-making autonomy to other CLUSA staff, and particularly placing the brunt of responses to USAID inquiries on John Wingard's shoulders; (2) undertaking routine field travel to other areas of India besides Gujarat, particularly to the model plants being assisted by Petersen; and (3) publishing a monthly plan which schedules routine contacts with all CLUSA program activities.

SUGGESTION: As standard practice, all CLUSA expatriate staff in India should be required to write a brief (1-2 page) monthly report of their activities. Following every field trip a brief report should be prepared on its purpose, activities, and outcomes. For all future visits by U.S. cooperative technicians under the auspices of the CLUSA Cooperative Oilseeds Advisory Committee, each visitor should be given an explicit scope of work and an outline for an end-of-visit written report.

VI. OVERALL REVIEW OF END-OF-PROJECT CONDITIONS AND INDICATORS

In general terms the Oilseeds Management OPG is proceeding on schedule and can be expected to be a success. It may even be a great success provided advisor inputs can be extended for at least six months and even better for a longer period of time. Regarding project implementation, CLUSA and NCDC staff are at stage five--production of manuals and training activities--but they are also at stage six: conducting training programs for general managers. Admittedly, the training is informal. But the refinement of operating techniques and efficiency in five "model plants" can be regarded as the development of five live classrooms for future training activities.

However, at this time it would seem appropriate to review the OPG's end-of-project conditions. Are they being met or have a high probability of being met in the future? Are these end-of-project conditions still appropriate? If not, which ones are inappropriate and how should they be changed? These questions should be addressed with regard to two points in time: (1) at the end of the OPG project, and (2) at the end of the NCDC Sector Development Five Year Plan.

A. By the End of the OPG Project

The first target is the completion of a field-tested Operations Manual for Cooperative Oilseed Processors. The document per se can be

considered virtually completed. In fact, its testing--mostly in regard to operating recommendations--has been going on for seven months and will continue into the indefinite future. What is not finished is a plan for utilizing the manual in training programs for plant personnel. Also lacking is a clear definition of who the manual's clients or readers will be, how its contents will be "packaged" for different specialized users, and how the manual(s) will be used in training programs for plant personnel.

The second target is a trained core of at least six Indian counterparts who can direct a training program for plant personnel. Achievement of this target by January 1981 is now impossible. It is possible by July 1981 provided NCDC makes a more serious commitment of personnel to the project, particularly as counterparts to Petersen and trained by him in the field.

The third target is an on-going training program for cooperative personnel of the processing plants. As mentioned above, an informal training program already exists as part of the plant test phase. This kind of training, which may prove to be the most useful anyway, can be expected to continue even without NCDC support on the interest and initiative of MARKFED and cooperative officers in the field. But as regards a formal training program, planned and financed by NCDC,-this does not yet exist. Budget resources are available but planning of training activities has been postponed until the completion of the Operations Manual.

The fourth target is the existence of trained general managers and completed sets of operations manuals in all cooperative processing units that have been operating for at least six months--about 40 in all. This target will not be met in the near future, even if the project deadline is extended by six months to July 1981. The consultant considers the target unrealistic. It would be more realistic to establish a set of different targets, as follows:

-By July, 1981: at least one trained general manager of a model plant exists for the following units:(1) cottonseed plant, (2) rice bran plant, (3) groundnut plant. These managers and their plants would represent different regions of the country.

By July, 1982: all existing co-op processors will have a general manager who has trained for a week or more in one of the pilot plants.

By July, 1983: all previously-trained general managers will have received follow-up training or on-the-job supervised training in their respective plants.

The fifth target is that within a year of the OPG's expiration (January 1982) all key operating personnel--about 8 per plant--will have been trained in systems/procedures recommended in the manual. I consider this target unrealistic except in the pilot plants. Because such training must follow that of managers, I think it will take at least an additional year--to 1983--for its achievement.

The sixth target is that the systems/procedures recommended in the manual will be in regular use in 80 percent of the processing units

by the beginning of 1982. Again, for reasons expressed above, the target will not likely be achieved before 1983.

The principal disadvantage of the above indicators is that they are all process variables. They measure activities, not results; and they ignore impact. The consultant believes the project should be finally evaluated on the basis of its impact on (1) plant efficiency, (2) profitability, and (3) benefits generated for cooperative society members. To keep things simple, the following indicators are suggested:

> Efficiency: (1) number of days the plant operated per year, with the maximum target being 365 days and the minimum acceptable standard being 300 days.
>
> Profitability: (2) Value and percentage increase, if any, in net profits of the processing plant from one year to the next.
>
> Benefits to Members: (3) Value and percentage increase, if any, in dividends paid to co-op members (share-holders) from one year to the next. In the case of the five plants mentioned on page 22, it would also be appropriate to measure (4) number of co-op members who are small farmers, and (5) number of oilseed growers who sold their production to the plant.

B. By the End of the NCDC Sector Development Plan

The first target of the Plan is to create 35 new co-op oilseed processing plants. In itself this goal is not desireable so long as existing co-op processors are operating at a fraction of full capacity, or if many plants have had to close down for reasons of inefficiency, lack of sufficient raw material, or adequate operating capital. It would be desireable

to first stabilize existing processors--in terms of efficiency and profitability--before starting new units. Hence, as a prerequisite for financing the establishment of new units, NCDC should require evidence in a feasibility study that the proposed new plant will not compete with existing co-op processors for scarce raw materials, capital, and markets.

The second target is the expansion of 15 existing units. Again, for the reasons cited above, this goal is inappropriate in the presence of underutilized capacity and scarce raw material supply. However, the term expansion does not have to mean expanded capacity. It can also mean expanding the efficiency of existing capacity. As Carl Petersen has demonstrated, processing machinery can be operated on a sustained basis at far above its rated capacity. Through-put can be increased, processing time can be reduced, and other outcomes are possible. Opportunities for expanding capacity in this way--without increased investment in fixed capital--should be thoroughly investigated before financing of construction of new facilities is authorized.

The third target is modernization of 30 percent of existing units. In and of itself this target is not desireable. Modernization is only appropriate to the extent it generates increased efficiency and profitability. A more appropriate target would be achieve a 30 percent increase in capacity utilization per year--for example, raising the sector average from, say, 200 days per year to 260 days.

The fourth target is to expand the co-op sector's processing capacity from 170,000 tons per year to 500,000 tons per year. Once again, the issue is not capacity per se but its utilization. A sector capacity of 500,000 tons used at less than 50% due to raw material scarcity, inadequate operating capital, and power shortages would prove an unmitigated disaster. Hence, a continuing target of, say, 80 percent of existing capacity utilization is preferable to one based on tonnage.

The fifth target is an increase in farmer-members from 500,000 to 1,000,000. This is appropriate. A companion target of farmer-suppliers would also constitute an appropriate objective.

The sixth target is an increase in 65,000 tons to 300,000 tons in oil supplies. Insofar as tonnage is not an indicator of profitability, says nothing about capacity utilization, and does not spell out who would be the beneficiaries of tonnage increases (consumers vs. producers), the consultant finds this indicator not very useful as a guide to NCDC decision-makers on the sector's performance. As was the case with OLUSA's OPG indicators, no valid evaluation of the NCDC Five-Year Plan will be possible without reference to efficiency, profitability, and benefit indicators. Those suggested on page 37 would be appropriate to apply to the Five-Year Plan.

It is not premature to contemplate the possibility of a follow-on OPG to keep the process going of efficiency, profitability, and benefit improvements in the cooperative oilseed processing sector. The CLUSA Oilseeds Management OPG represents a potentially very high gain activity for a relatively small amount of money. The potential gain stands to be even much higher--and the ability of U.S. cooperative expertise to help is even greater--as NCDC launches its massive soybean processing program. However, approval of a future OPG must be conditioned to the achievement of at least a minimum set of outcomes from the first OPG. Measuring such outcomes will be the purpose of the OPG's final evaluation to be conducted (hopefully) after February 1982. As part of the evaluation exercise, a comprehensive proposal should be prepared describing a strategy for maintaining continued performance improvements among cooperative oilseed processors, the technical assistance inputs required by the strategy, and how much they may be expected to cost. The elaboration at that time of a detailed program for continuing education and training of cooperative processing personnel would be appropriate.

A N N E X A.

ACTIVITIES CONDUCTED UNDER THE NCDC/CLUSA EVALUATION

First Week

Sept.14, Sunday:	-Arrival in New Delhi -Meeting with Walter Gibble
Sept.15, Monday	-Meeting with Rex Wingard -Document research
Sept.16, Tuesday	-Meeting with Carl Petersen -Meeting with NCDC counterparts Shikowat, Ramanathan -Document research
Sept.17, Wednesday	-Meetings with NCDC senior management--Matur, Sidhu, Bhatia -Meetings with USAID--Flynn, Houck, Westley, Trikha
Sept.18, Thursday	-Meeting with Carl Petersen -Document research
Sept.19, Friday	-Departure for Anand (Gujarat) via Indian Airlines -Visit to Anand Cotton Processing plant -Visit to Navli Milk Producers Co-op Society
Sept.20, Saturday	-Meeting with Anand co-op Chairman -Visit to farm of P.Singh, Gujarat small farmer -Interview with R.P.Aneja, Secretary NDDB -Return to New Delhi via Indian Airlines

Second Week

Sept.21, Sunday	-Rest and document research
Sept.22, Monday	-Departure for Andra Pradesh via Indian Airlines -Visit to Karimnagar groundnut processing plant
Sept.23, Tuesday	-Travel to Vijayawada via car -Visit to Vijayawada rice bran processing plant
Sept.24, Wednesday	-In Vijayawada (travel interrupted because of a general strike against GOI)
Sept.25, Thursday	-Return to Hyderabad via car -Return to New Delhi via Indian Airlines -Rest
Sept.26, Friday	-Travel to Khanna (Punjab) via car -Visit to MARKED vanaspati processing unit -Visit to Khanna market-yard and meeting with manager of Khanna Cooperative Marketing Society -Return to Delhi by car
Sept.27, Saturday	-Travel to Udaipur (Rajasthan) via Indian Airlines -Visit to Fatehnagar groundnut processing plant

Third Week

Sept.28, Sunday	-Return to Delhi via Indian Airlines
Sept.29, Monday	-Meeting with Rex Wingard -File research at CLUSA office
Sept.30, Tuesday	-Meetings with NCDC personnel--Sidhu, Rajgopal, Shikowat, Ramanathan, and Batra -Meeting with Petersen, S.R.Patel (Anand Chairman), and P.H. Bhatt (Manager, Gujarat Cotton Mkt.Fed.)
Oct. 1, Wednesday	-Meetings with USAID personnel--Flynn, T.Fox (PVO Office, AID/W), Bernadette Bundy (India Desk Officer, AID/W), John Gunning, John Westley, R.N.Trikha, Houck, Nandy -Meeting with Robert Nave, Hank Garwick of Nave Technical Institute (Shahjahanpur, U.P.
Oct. 2, Thursday	-Write-up of preliminary evaluation summary
Oct. 3, Friday	-Exit debriefings with Priscilla Boughton, Larry Flynn, Rex Wingard
Oct. 4, Saturday	-Departure from India via Pan American Airlines

A N N E X B.

PERSONS CONTACTED

NEW DELHI

CLUSA/India

Rex Wingard, Representative (wife Marilyn)
John Wingard, NCDC Technical Advisor (wife Kathy)
Carl Petersen, NCDC Management Advisor (wife Marge)
Walter Gibble, NCDC Technical Advisor
R. N. Mehta, Accounts Manager and Auditor
"Primie", CLUSA Secretary

USAID/India

Priscilla Boughton, Director
Lawrence Flynn, Chief, Office of Food for Development
John Gunning, Program Officer
John Westley, Evaluation Officer
Harry Houck, Assistant Director, OFD
Jane Nandy, International Development Intern, Office of Rural Development
R. N. Trickha, Program Specialist
Y. R. Chhabra, Secretary

AID/Washington

Bernadette Bundy, India Desk Officer
Tom Fox, Director, Office of Private Voluntary Organizations

National Cooperative Development Corporation

Vipin Matur, Managing Director
K. J. I. Bhatia, General Manager
K. S. Sidhu, Director of Processing
N. S. Rajagopal, Assistant Director
L. S. Shekowat, Oilseed Technologist and CLUSA Advisor counterpart
Mr. Ramanathan, Management Consultant and CLUSA Advisor counterpart
S. M. Batra, Oilseed Technologist

Others

Ernie Campbell, Presbyterian Missionary (wife Alpie)
Jeffrey Campbell, Mountain Travel Guide
Ron Yoder, Church World Service Advisor to CASA (wife Shirley)
Ed Nabert, Advisor to Volunteer Health Association of India
P. K. Bhatt, Managing Director of Gujarat Cotton Marketing Federation
S. K. Arora, Chairman and Managing Director, Andhra Pradesh MARKFED
Sebastian John, Driver
Katosh, Driver CLUSA
Dam Singh, Driver NCDC
Robert Nave, Director, Nave Technical Institute, Shahjahanpur, U.P.
John McHale, Director, Catholic Relief Services
H. P. (Hank) Garwick, Nave Technical Institute, Bareilly
Peter S. Chowfin, Managin Director, NTI, Bareilly

GUJARAT

Anand Taluka Cooperative Cotton Sale Ginning and Pressing Society Ltd.
J. A. Patel, Managing Director
S. R. Patel, Chairman of the Board
M. J. Desai, Production Manager
N. B. Surti, Senior Solvent Plant Operator
M. N. Khan, Plant Operator (Assistant)
D. M. Dabhe, Senior Boiler Supervisor

National Dairy Development Board
R. P. Aneja, Secretary
S. Kumar, Senior Project Executive, OVOW, Anand
B. A. Shaw, Project Executive, Farmers Organization Division

Others
Mr. P. Singh, Small Farmer, Kaira District
A. K. Chopra, USAID Auditor

ANDHRA PRADESH

Gopal Singh, Technical Director, State Marketing Federation, Hyderabad

MARKFED Groundnut Processing Unit, Karimnagar
P. R. Rao, Plant Manager
T. G. Rao, Senior Chemist
P. S. K. Rao, Plant Engineer

A. P. MARKFED Solvent Extraction Plant, Vijayawada
V. V. B. Reddy, District Manager, Vijayawada District Office
R. Y. Reddy, Plant Manager

PUNJAB

MARKFED Vanaspati Processing Unit, Khanna
K. S. Sidhu, General Manager
K. S. Wulin, Commercial Manager
C. M. Malik, Assistant Plant Engineer
G. S. Bhatti, Chief Chemist
R. C. Goyal, Senior Accounts Officer
Gupen V. Singh, Manager, Khanna Cooperative Marketing Society

RAJASTHAN

MARKFED Groundnut Processing Unit, Fatehnagar
R. S. Rekhi, General Manager
S. P. Gupta, Accounts Officer
S. Matur, Oilseed Extension Supervisor
G. C. Sharma, Solvent Plant Operator
Mr. Mohanddas, Fitter, Mechanic, Jack-of-All-Trades
O. P. Sharma, Laboratory Assistant
R. S. Bhagot, Production Engineer
Daulat Singh, Chemist
Khayli Ram, Senior Oil Mill Operator

MARKFED VANASPATI&ALLIED INDUSTRIES, KHANNA.

PROFIT PRODUCTION INCENTIVE SCHEME FOR THE EMPLOYEES OF MARKFED VANASPATI & ALLIED INDUSTRIES, KHANNA FOR THE PERIOD FROM 1.7.79 TO 30.6.80

The scheme will be called 'Profit Production Incentive Scheme' for the employees of Markfed Vanaspati& Allied Industries, Khanna for the year 1979-80. The scheme will be applicable to all the employees of the plant including the employees working in supervisory and managerial capacity. It will also be applicable to the daily paid employees covered under the scheme.

BASIS FOR THE PROFIT PRODUCTION INCENTIVE SCHEME.

Last year, the profit production incentive scheme was prepared on the basis of the installed capacity of the vanaspati plant i.e. 50 M.T. and the effective capacity thereof in view of the processing of mix untraditional oils such as S.B.Oil, Rapeseed Oil, Palm Oil & C.S.Oil etc., which on an average is about 50% of the installed capacity. There are 85 factories producing vanaspati in the country with the installed capacity of 12.91 lac tonnes. The effective capacity of such industries in the country is 8.83 lac tonnes against the installed capacity of 12.91 lac tonnes, which is 68% of the installed capacity. The actual production of the country ranges between 6-7 lac tonnes, because of the processing of imported oils, which gross comes to about 50% of the installed capacity. It is because the mills have no option except to use imported oils to the extent of 95% of the production of vanaspati as per orders of the Govt. of India. In order to augment the production as per the capacity, one has to select oils from the imported and available indigenous oils at the time of purchase in order to make higher production. It is, therefore, quite evident that there are limitations to achieve the capacity utilisation of the plant in full due to the circumstances, which are beyond the control of the management and the workers. During the year ending 30.6.79, the entitlement of incentive was based on the

contd. 2.

minimum production capacity of about 950 M.T. A passing reference may be made of this fact that this minimum norm was fixed, which was the average maximum production of a month in the previous years. Due to the formulation of the scheme of incentive for more production based on profitability of the plant, it has been possible to raise this average monthly production from 950 M.T. to 1078 M.T. w.e.f. 10.11.79, additional equipment has been installed and put into operation in the plant for augmentation and balancing the capacity of production of vanaspati. No doubt, with the installation of additional equipment, it is possible to process the oil so far as hydrogenation is concerned. According to the capacity of the plant, still there are other bottlenecks, which hamper the production to be brought to the level of installed capacity, especially the deodouriser section. The plant was put into operation during Dec.71 and it has worked for more than 8 years by now. The efficiency of the plant has decreased year by year and it cannot be expected that it can give production as per the installed capacity after the lapse of 8 years without replacement of the various strategic equipment, which has worn out by running during the previous years. It is pertinent to point out that the efficiency of the plant is bound to effect with the passage of time due to normal wear & tear. It has, therefore, been assessed that the plant will be considered to be working efficiently if it gives daily production to the extent of 80% of its installed capacity, in view of the above mentioned factory of normal wear & tear, in addition to the other limiting factors of processing, the imported oils.

Keeping in view the position explained above, the normal production of the plant and its efficient working has been considered to be 40 M.T. per day, which works out to be 1200 M.T. per month. It has, therefore, been considered appropriate to fix the minimum norm for entitlement of the profit production incentive scheme at 1200 M.T. production w.e.f. 1.12.79, because the month of Nov. was only a trial of machinery already installed in the plant. So in the scheme of profit production incentive, it has, therefore, been laid down that the minimum norm of production for entitlement of incentive

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will be 950 M.T. per month from 1.7.79 to 30.11.79 and 1200 M.T. from 1.12.79 to 30.6.80.

PROFITABILITY OF THE PLANT BASED ON MINIMUM PRODUCTION ENVISAGED IN THE SCHEME AND ALSO THE INCIDENCE OF THE PROPOSED PROFIT PRODUCTION INCENTIVE FOR VARIOUS SLABS PROPOSED & ECONOMICS THEREOF.

At the moment, the prices of raw materials prevalent in the market are the highest. Since the beginning of the year, the cost of raw material used for the production of vanaspati has been worked out on the basis of the present market price of oils and other inputs used for its production, whereas the sale price of vanaspati has been taken into account, which is the average of the sale price of last five months. The detailed statement of cost of production, sale price and margin of profit on various slabs of production per month is attached as Annexure 'A'. It may be observed that on a minimum production level fixed for the entitlement of profit production incentive i.e. 1200 M.T. per month, the plant on the above assumptions of the purchase & sale price earns a profit of 6.7 lacs on which the plant will have to pay as profit production incentive. The plant will earn a profit of Rs.99,000/- on every additional production of 50 M.T. over & above the minimum norm fixed for the entitlement of incentive. It has, therefore, been proposed that one day pay as profit production incentive be allowed to the employees of the plant for every 50 M.T. increase of production over & above the minimum norm fixed for the period. Any fraction over & above 50 M.T. at the time of determination of the entitlement should be considered for the entitlement of one day incentive in case such fraction is more than 25 M.T. production. With the estimated expenditure of one day pay of the employees of the plant will be approx. Rs.4000/- per day. The incidence of profit incentive will not be more than Rs.4000/- for every 50 M.T over & above the minimum fix norm. Against the expenditure of Rs.4000/-, the additional net profit available to the plant will be to the tune of Rs.99000/-. The entitlement of incentive in respect of the various levels of production achieved by the plant employees during the month will be as under under:

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Total Production. (MT)	Extra Production. (MT)	Extra Benefit (Rs/Lac)	No. of days for which production incentive will be admissible.	Amt. involved in the payment of profit production incentive. (Rs./Lac)	Addl. net. benefit available to the pla (Rs./Lac)
1200	-	-	-	-	-
1250	50	0.39	1	0.04	0.3
1300	100	0.78	2	0.08	0.70
1350	150	1.17	3	0.12	1.05
1400	200	1.56	4	0.16	1.40
1450	250	1.95	5	0.20	1.75
1500	300	2.34	6	0.24	2.10
1550	350	2.73	7	0.28	2.45
1600	400	3.12	8	0.32	2.80

In case the entitlement of employees for incentive works out to be more than 50 days in a month year, then the ceiling limit for the entitlement of profit production incentive will be considered subject to the maximum of 50 days in a year.

STANDARDS OF ELIGIBILITY OF PROFIT PRODUCTION INCENTIVE FOR EMPLOYEES COVERED UNDER THE SCHEME.

The following categories of the employees will be eligible for the profit production incentive as per the scheme mentioned above.

i) The employees who will remain on medical or E.S.I. leave for more than six days in a month will not be entitled for any incentive of that month

ii) An employee will be entitled for the profit production incentive in respect of leave without pay upto seven days in a year. His entitlement for incentive will cease from the month he avails leave without pay for more than seven days i.e. an employee will not be entitled for incentive if he proceeds on leave without pay during any month after availing 7 days leave without pay.

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iii) Any employee, who reports late for duty for more than two occasions in a month will not be entitled for the incentive for the month. The Time office will report on the basis of presence marked in the attendance register, the names of the employees, who report late for more than ten minutes. In case an employee, who attends late, avails short leave with the sanction of the competent authority and that leave is deducted from his leave account as per factory rules, will be entitled for the incentive.

iv) The daily paid employees will be entitled for the incentive only if they remain on duty in month atleast for 25 days including the rest days.

v) No incentive shall be paid to an employee against whom there is a charge of mis-conduct. An employee will be entitled for incentive in case of the charge of misconduct not proved as a result of enquiry & acquittal by the competent authority.

vi) An employee under suspension will have no claim of production incentive during the months, he remained under suspension irrespective of the number of days he has actually worked in that month.

Pay for the entitlement of profit production incentiv for the month will be considered, the pay drawn by the employee excluding house rent allowance, conveyance allowance and medical allowance for themonth for which he is eligible for incentive.

CONSTRAINTS OF PRODUCTION

In case the production during any calendar month falls due to forced natures mentioned below, no employee will raise any claim for prodartion inc incentive on account of the fall of production due to such constraints:-

i) Shut down of the factory due to any mechanical break down and failure of electricity & non availability of steam coal.

ii) Stoppage of production due to accumulation of stocks being slump in the market.

iii) Non-availability of raw material, packing material and chemicals and other materials required for the production.

The above standard of eligibility is subject to the

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installation of additional equipment for balancing of the existing capacity and the augmentation of the production capacity ofthe factory. The management will be competent to revise the norms of entitlement of production incentive in whatsoever manner it likes, keeping in view the installation of the machinery and other equipments etc. for additional production.

General

The scheme has been made applicable to all the employees of the mill keeping in view the co-ordinated effort and team work which is essential to augment the production of the plant. It may be mentioned that the workers working on the machines alone cannot increase the production ifthe required materials for production is not arranged in time according to the need of the plant for processing. The pace of production also cannot be maintained if finished products of the plant are not disposed off expeditiously by the Sales department of the plant. Similarly in case the accounts ofthe plant are kept proper ly and the payments to our customers and supplies are released in time the supply and marketing position of plant will improve which will also provide an impetus to production programme. So the rise in production does not depend only on the workers working on the machines but is also dependent on the efforts of the other staff who is engaged for the procurement and disposal of finished products in different capacities. Therefore, in order to make the production programme a success and to create interest of every employee working in the factory, the production incentive has been proposed for all the employees working in the plant.

The proposal is economically viable and the production of the plant is going to be effected substantially, which may kindly be approved at the earliest.

(K.S. Sidhu)
General Manager.