



**TOGETHER**  
*for a sustainable future*

## OCCASION

This publication has been made available to the public on the occasion of the 50<sup>th</sup> anniversary of the United Nations Industrial Development Organisation.



**TOGETHER**  
*for a sustainable future*

## DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

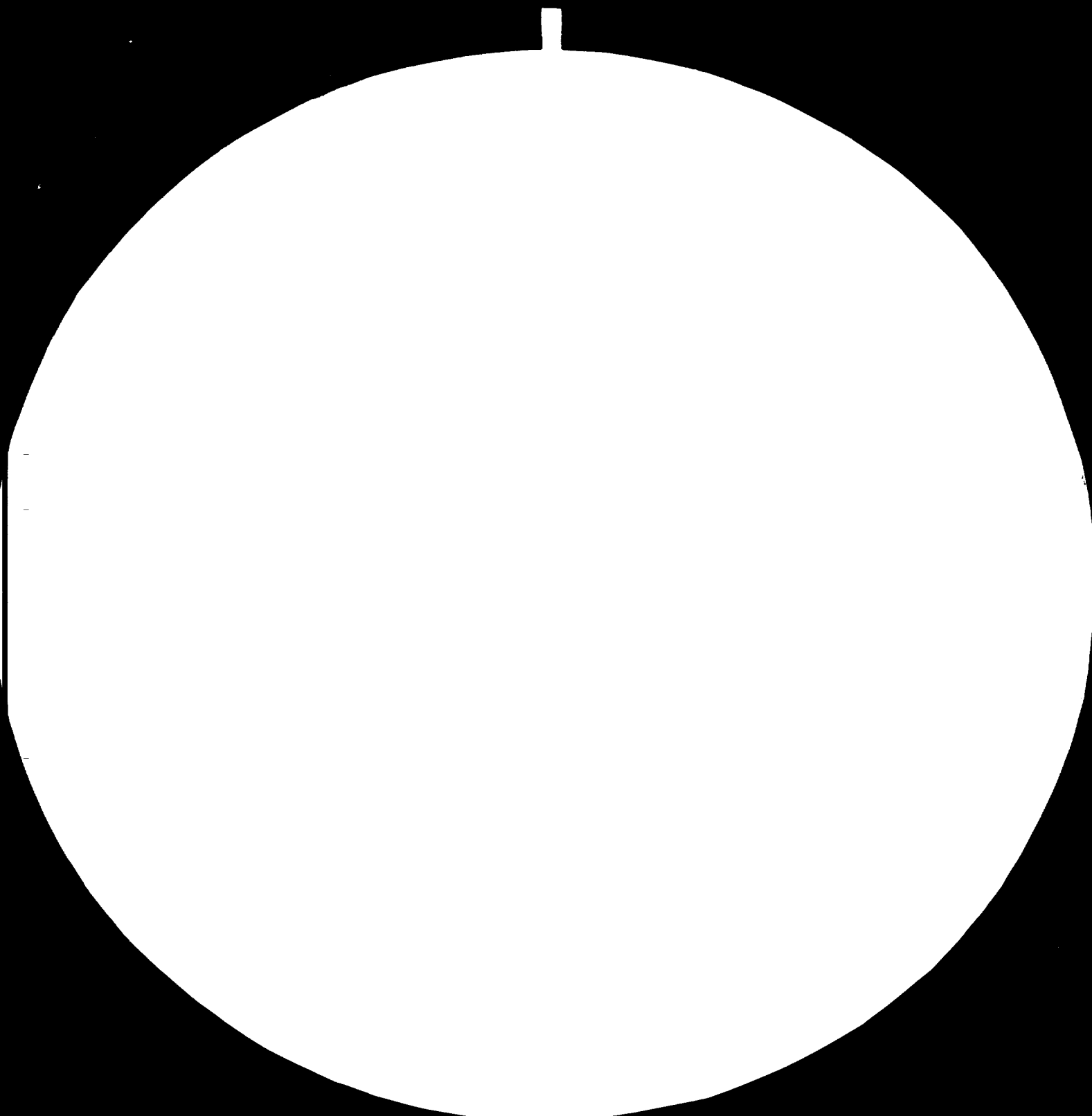
## FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

## CONTACT

Please contact [publications@unido.org](mailto:publications@unido.org) for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at [www.unido.org](http://www.unido.org)





MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS-1963-A

RESTRICTED

09807

21 June, 1980  
English

(R) ASSISTANCE TO THE  
INDUSTRIAL RESEARCH AND  
CONSULTANCY UNIT (IRCU)

KEN/75/029

KENYA

Terminal report

Prepared for the Government of Kenya  
by the United Nations Industrial Development Organization  
executing agency for the United Nations Development Programme

Based on the work of Jothar J. Badersbach  
technical adviser on mechanical engineering

United Nations Industrial Development Organization  
Vienna

---

This report has not been cleared with the United Nations  
Development Organization which does not, therefore,  
necessarily share the views presented.

## INTRODUCTION

The project for which this terminal report is being prepared has been beset by innumerable problems since its inception up to the point of the resignation of its technical adviser. This report is an attempt to analyse the reasons for the failure of the project and make recommendations for future assistance to avoid similar pitfalls.

### I. OBJECTIVES AND LOGIC OF THE PROJECT

In this connection, it is necessary to draw the attention of the reader to a letter from Mr. E. Napoliello, Director of the Division of Policy Co-ordination, UNIDO, dated 7 July, 1977 (Annex 1). Mr. Napoliello had a number of reservations about situating the project in the Department of Engineering of the University of Nairobi, a Multipurpose Research and Development Institute (IPRDI). He stated that IPRDI's have a number of inherent weaknesses which "make their performance inefficient and prevent them from reaching their ultimate goals"

- (a) their lack of communication with industry;
- (b) the staff of IPRDI's generally lack industrial experience and prefer academic research to solving practical problems of the industrial sector;
- (c) "The success of an IPRDI stands or falls with the quality of its director and senior staff";
- (d) lack of information on existing worldwide appropriate technologies.

In point of fact, the objectives of the project were not attained in large part for the reasons already given by Mr. Napoliello in July 1977! The very problems

envisaged in the planning stages of the project were encountered during its actual execution and seriously hampered any progress the project might have made in achieving the goals and objectives set out in the project document.

## II. ACTIVITIES CARRIED OUT

Although one of the recommendations made by UNIDO was to have a one month consultancy mission (information expert on appropriate technology) prior to my arrival in order to provide an information base (Annex 1, Para. 6), this was not done. Upon my arrival in March 1978, I therefore began the work of setting up the IRCU without any previous groundwork having been carried out. In this connection, it should be pointed out that I was left totally to my own devices: there were no counterparts and no office space. I was forced to learn about the Administrative Bureaucracy without any local assistance. Furthermore, during the first three months of my stay in Kenya, the Dean of the Faculty of Engineering was not easily accessible since he was working closely with the Ministry of Water Development at that time. It was therefore necessary to work totally independently at a stage where guidance concerning the prevailing local bureaucratic conditions would normally have been essential. I procured office and design equipment and office space was acquired from the University with much difficulty (See Annex 2). The negative attitude on the part of the University was already apparent at the initial stages of setting up the IRCU.

Although the Industrial Liaison Officer was finally appointed to assist me (in August 1978) in setting up the IRCU he had neither industrial knowledge nor liaison experience.

Mr. Napoliello had made a point of emphasizing the

importance of industrial experience in considering the qualifications of the Liaison Officer (Annex 1, para. 2). In order to counteract this lack of experience on the part of the Liaison Officer, as well as to provide additional assistance, the IRCU was fortunate to obtain the services of a volunteer. This volunteer proved extremely useful, but his services were subsequently terminated by the IRCU. He is currently working for an Italian firm as Technical Manager.

At the same time as I was setting up the IRCU, I began establishing contacts with the industrial sector: small and large scale industries and industrial organizations. Such contacts consisted not only of written communications, but also personal visits in the vicinity of Nairobi as well as small scale industries up-country. Various field trips were undertaken by myself alone, to establish the necessary links with industries. Only once did my Liaison Officer accompany me, during which trip I paid for his board and lodging from my personal funds. Once the six fellows joined the IRCU, they accompanied me on the field trips. As was already discussed with Mr. Soede during my de-briefing in Vienna, the daily allowance of Kshs 100/= which the fellows received proved inadequate. The amount should be increased to Kshs 200/= per day.) Neither the Liaison Officer nor the (Co-) Director (i.e. the counterparts) accompanied us on these journeys; they preferred staying in Nairobi at their office desks, to the discomfort of the field trips. (Please see Annex III).

The six fellows began their tuition on 1 August 1979. Unfortunately, since their arrival the university has been closed a number of times and their instruction, therefore, interrupted:

- (a) in October 1979, the University was closed due to riots;
- (b) in December, Christmas holidays meant the closure of the University for about one month;

(c) since February 1980, the University was again closed due to riots and had not yet re-opened by the time of my departure.

The fellows' progress was hampered by the fact that they possessed no practical experience; their theoretical knowledge was also deficient in a number of important areas, e.g. Tolerances, Bearings and their application, detail drawings, part assembly, production planning and layout, proper handling and setting of machine tools, handling of cutting-tools, dividinghead, etc. Training, therefore, had to commence with broadening their theoretical knowledge before we could begin to go on to more practical aspects of their training.

This absence of practical knowledge and accompanying gaps in theoretical knowledge was also the case with my direct counterpart, the (Co-) Director, who was introduced to the IRCU as the "Director of Administration".

Annex IV, which was drafted by the Co-Director, indicates the duties of the IRCU staff as seen by the University's Faculty Executive Committee. Unfortunately, the Co-Director's lack of suitable technical background abilities would, in practice, have made it impossible for him to assure responsibility for the technical direction of the IRCU upon the technical adviser's departure.

The same Annex IV outlines the Liaison Officer's duties as envisaged by the Executive Committee: the Industrial Liaison Officer who was assigned to the IRCU has, as already stated, no previous experience in Industry. Without such relevant experience, it would be impossible for the Liaison Officer in question to conduct a "survey of the research and development needs of industry" and to identify "suitable research and development projects". Despite the fact that we at the IRCU had been eagerly anticipating the arrival of the (Co-) Director for almost two years, his actual appearance proved to be one of the major problems of the project: in addition to lacking the



required technical experience, he insisted that his position was solely an administrative one and consequently categorically refused to acquire any technical knowledge. The disastrous effect of his attitude on the project can not be sufficiently emphasized. Mr. Napoliello (see I (c) above) stated that in UNIDO's experience the success of an MPRDI "stands or falls with the quality of its director". I can only heartily agree with this sentiment. It must be remembered that the project document clearly states that the (Co-) Director (i.e. my direct counterpart) was to take over the technical responsibilities of running the IRCU upon the departure of the technical expert. Since the (Co-) Director refused to acquire any technical expertise what-so-ever, he would never have been in a position to take over the running of the IRCU in any capacity other than an administrative one. It must be stressed that this would have been totally counter-productive to the aims and objectives of the project.

The lack of co-operation on the part of the University concerning the IRCU has plagued the IRCU throughout the life of the project to date. It began with the fact that no office space, counter-part staff nor administrative assistance had been allocated by the time of the technical adviser's arrival. It continued in a similar manner until the appointment of the (Co-) Director (who assumed administrative rather than technical responsibilities) brought the whole matter to a head. (Please see Annexes V, VI and VII which highlight some of the problems which have typified the relationship between the IRCU and the University's Executive Committee, as well as my previous Progress Reports). The history of difficulties goes back even farther than UNIDO's involvement with the Faculty of Engineering at the University of Nairobi. As already mentioned in previous progress reports, written evidence of difficulties between International Experts/Advisers and the Faculty of Engineering goes back as far as 3 March 1975. (Please also see my progress report covering the

period 4 March 1978 to 3 September 1978).

The University also proved reticent about providing the necessary funds to carry out IRCU work. For the sake of comparison, UNIDO provided \$45,287.28 (this sum does not include salaries nor does it include the stipends for the six Fellows) for training and equipment from 4 March 1978 to 31 December 1979. During the same period, the University disbursed only Yshs 6,000/= which was for the diesel engine for the Biogas plant at the Bahati Duck Farm. (For this same diesel engine, UNIDO provided Kshs 5,000/= to pay for its general overhaul, and an additional Kshs 6,000/= for the foundation (cement) and construction.) The 60 kw generator which was required has still not been provided by the University, although the diesel engine has been successfully converted to run on Biogas.

Annex VIII indicates the good-will on the part of the technical expert to involve all the staff members of the Faculty of Engineering in order to promote better co-operation. As you will note, an Internal Memo from the IRCU to "All Members of Staff-Faculty of Engineering" dating back back to 6 September 1978, requests "mutual co-operation and assistance". Despite the efforts of the technical advisor, the Dean of the Faculty of Engineering mentioned in his Internal Memo of 17 October 1979, that "there was not enough liaison between the IRCU and members of the Faculty of Engineering".

Finally, since the (Co-) Director was only interested in Administration; the Resident Representative, Mr. Robert Kitchen, regarded the work of the IRCU as a duplication of the FAO Project in Nakuru (i.e. Agricultural Equipment Testing Unit); the SIDFA, Mr. Gaitachew Bekelo, was not providing any tangible support other than empty promises and words of consolation; and the University evinced a singular lack of support by, inter alia, not being in possession of any Tolerance Tables (and not

demonstrating any interest in acquiring any), not providing any literature and/or Tables for Fittings and Bearings (which the University deemed unnecessary), I decided to turn my personal efforts towards more practical endeavours: since January 1980 I devoted my attentions to the firms which had requested IRCU's assistance. (These have already been described and discussed in detail in my last progress report.) Although the fellows accompanied me on these trips during January and February 1980, at no time did the (Co-) Director or Liaison Officer do so.

### III. Recommendations

The likely possibility of failure of this project was already foreseen by UNIDO's Division of Policy Co-ordination (see Annex I), which elaborated on the unlikelihood of the project's success should it be housed in the University (an IPRDI). The IRCU should not have been incorporated within the University which, by its very nature, is academically/theoretically oriented. Instead, it should have been placed with an Organization which is more in direct touch with Industry and less bureaucracy-bound than an academic institution.

For reasons of which I am not fully aware, the project was after all placed with the University despite the misgivings UNIDO had. As a result, I can only make the following recommendations:-

1. to close the project completely since, in my view, this project was introduced about ten years ahead of its time; or
2. re-locate the project with the National Council for Science and Technology (NCST) since this organization has more direct links

with industry. Furthermore, it is absolutely essential that a (Co-) Director for the IRCU be found who has, and is willing to implement, considerable technological and practice-oriented experience. A (Co-) Director for mainly administrative work is untenable and makes a mockery of the project's objectives and goals.

Under no circumstances would I consider this project viable should it continue to be housed within the University.



