



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th 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.

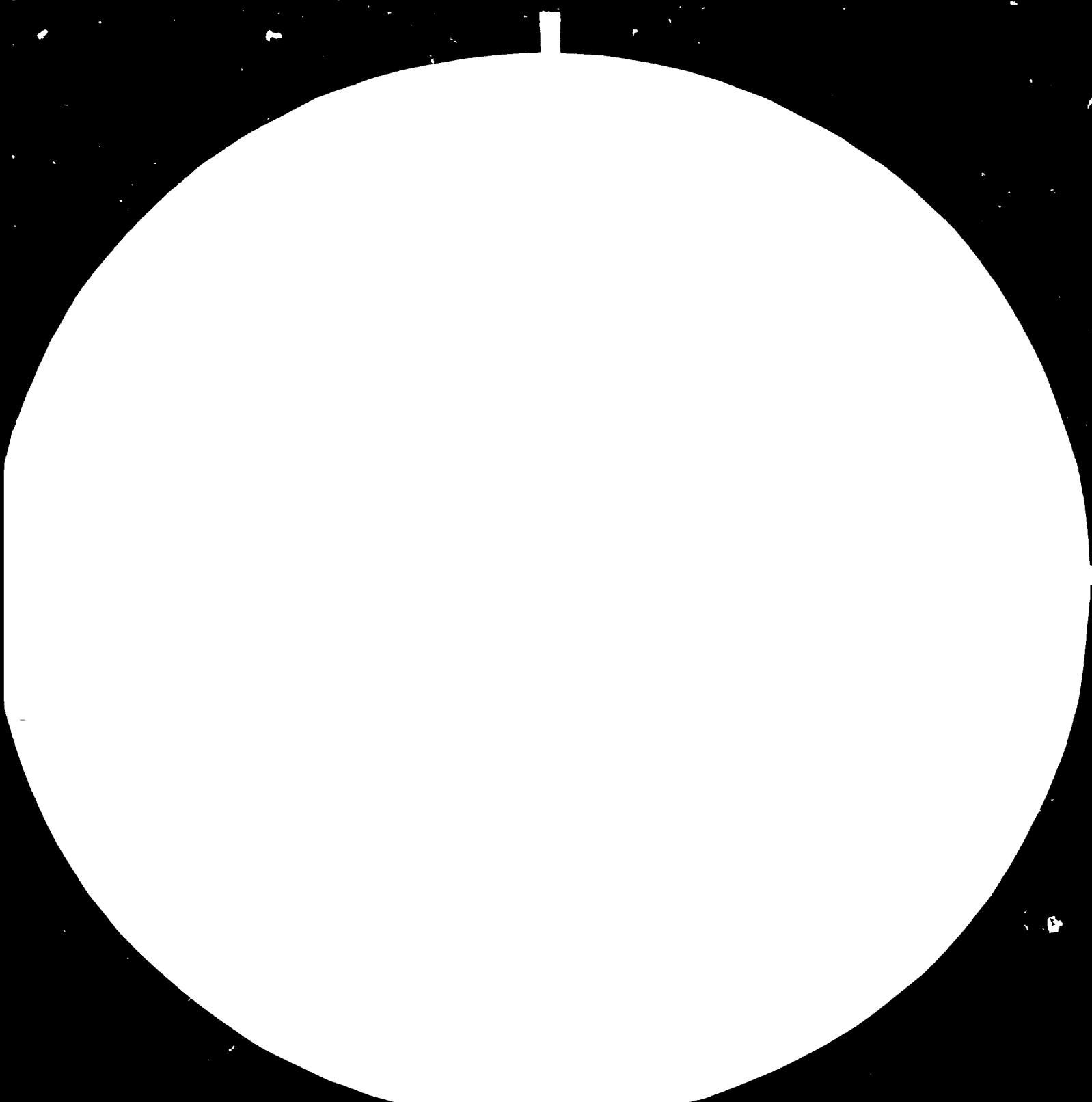
FAIR USE POLICY

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

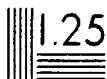
Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org






2.8 2.5



Resolution Test Chart

Resolution Test Chart

11907



Mission to Tanzania. (TIRDO project review).

of

Frans J. Soede
Senior Industrial Development Officer
Institutional Infrastructure Branch
Division of Industrial Operations

2 - 7 August 1982

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

The objective of this mission was to represent UNIDO Headquarters at the Tripartite Review Meeting (TRM) of above subject project. The TRM took place on Friday, 6 August 1982, at the TIRDO Housing Estate and was preceded by a visit to the different operational facilities as well as the construction site. The Minutes of the TRM are being prepared by Ms M.K. Nilson Dag.

Prior to the meeting, discussions and brainstorming sessions were held with the following persons:

Mr Fadhili D. Mbaga	Principal Secretary of the Ministry of Industries
Mr C.L. Tarimu	Director General of TIRDO
Mr P.S. Reynolds	UNDP/RR a.i.
Mr S. Henein	SIDFA
Ms M.K. Nilson Dag	JPO
Mr C.A. Stone	UNIDO Senior Technical Adviser
Mr S.K. Suri	Expert in Electronics and Instrumentation
Mrs-L.E. Aquino	Expert in Industrial and Technical Information and Documentation Systems
Mr K. Klintøe	Expert in Industrial Information, Extension and Advisory Services
Mr K.J. Hintsanen	Associate Expert in Research and Development Management

1. General situation

In May 1982, the Government of Tanzania promulgated the Structural Adjustment Plan of which the objective is to deal with the emergency economical and financial situation of the country. One of the first actions was to postpone or cancel capital investment in more than 200 development projects which also included TIRDO. Fortunately these measures did not affect the recurrent budget for TIRDO which was increased by 50%.

The TIRDO building programme will of course be affected by these measures and it is expected that only the structures of three of the approximately 20 buildings (see Annex 1) of the TIRDO complex can be finalized by the end of 1982. These buildings, after completion of the installation of the electricity and water supply, could be used for engineering (workshop), chemical analysis and testing, and plant ancillary services (water tower,

electrical distribution and compressors). This final completion work would need another \$600,000 worth of equipment, a great part of which would require foreign currency which is extremely scarce.

..... The present staff employed by TIRDO amounts to 29 members (see Annex II). All these staff members, together with the UNIDO experts, have their offices and, for a great part, also their lodging facilities at the TIRDO Housing Estate.

2. Review of UNIDO's contribution to TIRDO's development

In order to avoid spreading UNDP/UNIDO's contribution too thinly, it was decided at last year's TRM to limit project DP/URT/78/019 to four activities:

- (a) the creation of the TIRDO Industrial Information Department;
- (b) the creation of the TIRDO Instrument Repair and Maintenance Division;
- (c) assistance to TIRDO in technical, promotional, managerial and organizational activities in the form of a senior and associate expert. The senior expert is also acting as the Senior Technical Adviser and the supervisor of the UNIDO experts;
- (d) advice by short-term consultants/experts.

All four activities mentioned above are carried out in the above-mentioned Housing Estate and can continue there even if the TIRDO building programme comes to a complete stop.

The Information Department is operational with two UNIDO experts (documentation and extension) and two Tanzanian counterparts. A total of 150 industrial enterprises and institutions have been visited. The two counterparts were abroad for training and this included INTIB in Vienna. A telex communication terminal is operational as well as two photocopiers and a duplicating machine. The minimum amount of handbooks, directories, journals, etc., are available.

After the arrival of the UNIDO expert and the connexion of TIRDO to the electric grid, the Instrument Repair and Maintenance Division started operations. Almost 90% of the required testing equipment is on site, however air-conditioners and consumable materials are still missing. Two competent and experienced counterparts have been employed recently. The only person missing is the UN volunteer.

It is expected that with these facilities in operation a very important impact can be made by putting a large number of instruments and equipment, in other institutions and factories in the whole of Tanzania, back into operation. It has been decided that this service will be remunerative and thus will create an important source of income for TIRDO. The same, but to a much lesser extent, will apply to the paid services of the Information Department. It is estimated that both services together may yield at least 10% of TIRDO's recurrent budget.

The Director General of TIRDO confirmed that some trainees from other African countries such as Namibia and Zambia could be hosted in the two above-described facilities.

The two APPLE II computers and some of the software have arrived. Unfortunately the Associate Expert who has to operate these computers is not yet in post. It is the intention to use these computers for accounts, information retrieval, word-processing and solving engineering problems.

The STA and Associate Expert are concerned with a large number of diverse activities. It is estimated that the time of the STA during the last 12 months was divided approximately as follows:

- 40% administration
- 20% supervision of UNIDO experts and consultants
- 20% promotional work (EEC etc.)
- 20% R + D project management

As the load of administration will diminish in the future, it is expected that more time can be devoted to the management of R + D projects. For a more detailed analysis of this activity, see item 7.

Four short-term consultants visited TIRDO and Tanzanian industries; their work has been very useful to TIRDO and provided "on-the-job training" for a large number of TIRDO staff. One outcome of these consultancies is the assistance which will be provided by the Republic of Ireland (see item 5).

3. UNIDC's future role in supporting TIRDO (1983 - 1986)

The STA has prepared a Project Document covering the Phase II of UNDP/UNIDO assistance to TIRDO during the Third Country Programme (1983/86). The value of the project is approximately US\$1.5 million. It covers 144 m/m for continuation of the services of the STA, expert assistance to the information and repair and maintenance facilities, and some short-term

expert assistance in the fields of engineering, analysis and testing, food technology and chemical engineering. Furthermore, the project covers 107 m/m of fellowships, study tours and meetings, and \$249,000 worth of equipment. The TRM approved this project in principle and it will be submitted by the UNDP office in Dar es Salaam to UNDP New York as soon as possible.

4. EEC assistance to TIRDO

A total amount of 4.6 million units of account have been earmarked for assistance to TIRDO in the EEC Tanzania Country Programme (Lome II). The implementation of this important component of technical assistance has, however, not yet been started. A number of draft proposals have been submitted to the EEC Headquarters in Brussels but up until now without any results. Although not officially confirmed, it appears that assistance to institution-building has a very low priority in the EEC/TA programme. It is therefore desirable to propose schemes which are directly related to the improvement of performance of existing industries.

This subject was discussed with the Principal Secretary of the Ministry of Industries, Mr Mbagi, together with Messrs Tarimu and Stone on Thursday morning, 5 August 1982. It was also debated at the TRM on 6 August. It appears that it is finally the Tanzanian Government which should make up its mind and indicate to the EEC authorities its priorities. It was decided that Mr Stone would draft a new presentation which will be project-orientated, i.e. will list a number of concrete projects which will have certain effects on the industrial performance and thus on the economy of the country as a whole.

5. Assistance from the Republic of Ireland

During my mission, a telex was sent to Mr Harbison, the UNIDO short-term expert in engineering who had promised to contact the Irish authorities for a contribution in TA in the field of engineering. We received a reply the next day which indicated that should the Government of Tanzania make an official request, funds could be earmarked immediately. This was arranged by Mr Tarimu and it appears that there is a good chance that this Irish assistance will be forthcoming soon.

6. Additional assistance from UNDP/IPF

The subject of a small project for an energy conservation audit (2 m/m fellowship, 3 m/m consultancy and \$12,000 equipment components) of the major industrial parastatals was discussed with a number of people during the mission. It appears that there is a consensus that this type of project could be of great importance to the economy of the country because it may lead to the decrease of energy consumption with or without relatively small investments.

The RR/a.i., Mr Reynolds, said during the TRM that funds for this programme could probably be found in savings of the 1982 UNDP/IPF. Mr Stone will follow this up.

7. Development of the R + D function of TIRDO

Already during my mission last year I suggested both to Mr Tarimu and Mr Stone to attempt to develop some R + D activities, notwithstanding the fact that the TIRDO physical facilities are not yet available to carry out tests and analysis, and to fabricate spare parts and other mechanical devices. The urgent problem is to mobilize, to motivate and to put to work the already available TIRDO staff members, most of whom have considerable theoretical knowledge but lack industrial experience. They cover the following fields:

	<u>Number</u>
Chemistry	3
Chemical Engineering	2
Analytical Chemistry	1
Food	2
Natural Products	1
Fibres Technology	3
Mineralogy	1
Mechanical Engineering	2
	<hr/>
Total	15
	<hr/>

A large number of this staff have been or are on fellowship tours either financed by UNIDO or by other donors. One of the fellows took about 50 kg of mineral ore samples with him for testing during his training period. In addition, they acted as counterparts to the various UNIDO short-term experts in chemical analysis, chemical industries, food, and engineering. Also, the new Information Department has briefed them through seminars as to how they could get access to sources of information at TIRDO, in Tanzania

as well as abroad.

In addition to these human resources already available at TIRDO, there exists a considerable number of workshops and laboratories in and around Dar es Salaam which could be utilized whenever a concrete project would require these facilities.

During the factory visits of the Information Department officials, a number of problems in industry were identified which could be tackled by this group of people, if necessary with short-term assistance of expatriate consultants.

At present there are three R + D projects under implementaiton:

- a. pyrolysis of waste materials,
- b. the development of vegetable dyes, and
- c. the improvement in the design of charcoal/wood stoves.

During his recent mission the chemical industries expert identified three additional projects which could be tackled immediately:

- d. the construction of a distillation column for the manufacture of essential oils from agricultural wastes,
- e. the extraction of non-edible oils, and
- f. the recovery of chemicals from sea salt.

One of the key problems in the proper utilization of the TIRDO R + D staff is the lack of a full-time Chief Research Officer who could supervise this group through a number of team leaders who finally may become the future department heads (chemicals and food, engineering and energy, fibres, and analysis and testing). Messrs Tarimu and Stone have tried to make up for this deficiency but this was not practical due to all kinds of other work with high priority. The profile of this Chief Research Officer should cover academic standing, experience in industry and industrial R + D, and proven managerial capabilities. It has been attempted to find a candidate for this post but up until now without success. Mr Tarimu is at present making new attempts. In case all these efforts lead to nothing, it will be necessary for TIRDO to obtain the services of an expatriate as soon as possible.

In this relation, it should be repeated that it has been the opinion of Mr Tarimu from the very beginning of our co-operation that the posts of the Chief Research Officer and Department Heads should be occupied by expatriates for a period varying from 3 - 5 years until the time Tanzanian nationals can take over. Unfortunately the available UNDP/UNIDO funds are insufficient to finance such an operation which would cost approximately \$500,000 per year.

8. Conclusions and recommendations

(1) The TIRDO building programme which was started very energetically in 1979 has come to a dramatic halt due to the financial crisis in the Government. In 1983 and probably beyond, TIRDO will not have any priority in receiving funds from the capital investment budget. There are only funds available in 1982 to finish at least the structural parts of three buildings. However, approximately \$600,000 in foreign exchange will be additionally required to make these buildings operational. It is being attempted, at present, to obtain EEC assistance to cover these requirements. As it does not appear that the present financial problems of the Tanzanian Government will be overcome very soon, it should be investigated as to whether loans on soft terms could not be obtained from the Tanzanian Housing Bank, the African Development Bank or the IBRD (IDA) to finalize the building programme.

(2) Contrary to the rather bleak situation with the unavailability of the capital investment funds, the recurrent budget of TIRDO has been increased with 50% in comparison with former years which is very encouraging. This implies that additional staff can be recruited and increasing expenditures be met.

(3) The UNDP/UNIDO assistance to TIRDO has been very successful due to the availability of preliminary buildings in the housing estate and teams of competent and motivated Tanzanian counterparts. It is expected that the Information Department and the Instrument Repair and Maintenance Division can be entirely transferred to Tanzanian staff by the end of 1984.

The UNIDO Senior Technical Adviser and the Associate Expert have been involved in a considerable variety of activities which have been very much instrumental in bringing TIRDO into the stage where it is at present. Many problems which were not well-defined in the past have become more transparent and ways and means are being explored to solve them.

(4) Due to the vacancy of the Chief Research Officer's post, the team of 15 so-called "TIRDO researchers" lack continuous supervision and daily exposure to a programme for "on-the-job learning" in industry. Most of these staff members do not have any experience in industry and therefore do not have the confidence to start tackling the numerous problems of industry which wait for solutions by themselves. The assignment of a Chief Research Officer is crucial to the full utilization of these very valuable human resources. In case this individual cannot be found in Tanzania, an expatriate should be recruited to perform this function.

(5) The EEC assistance to TIRDO (engineering, and testing and analysis) is still in the stage of preliminary negotiation. It has now been promised by the Government that energetic efforts would be made to get this programme on stream.

(6) It seems that, in order to qualify for foreign assistance, the original orientation of TIRDO to "institution building" should be modified to active participation in solving some of the urgent problems of industry. It is expected that both objectives can be attained simultaneously by the proper design of foreign technical assistance programmes as is the case already with the present and future UNDP/UNIDO technical assistance programme.

(7) If it appears that EEC assistance is not forthcoming, more intensive efforts will be required from the TIRDO Director General and the UNIDO/STA to promote assistance programmes from other sources. A systematic approach should be initiated to find out about the development priorities of the different bilateral sources and to design technical assistance proposals in such a way that they will qualify for funding from specific donors. These projects could take many forms and combinations such as the supply of equipment and documentation, the provision of experts and consultants to perform well-defined tasks, the support for practically-oriented training programmes for individual TIRDO staff, and twinning arrangements with similar institutions.

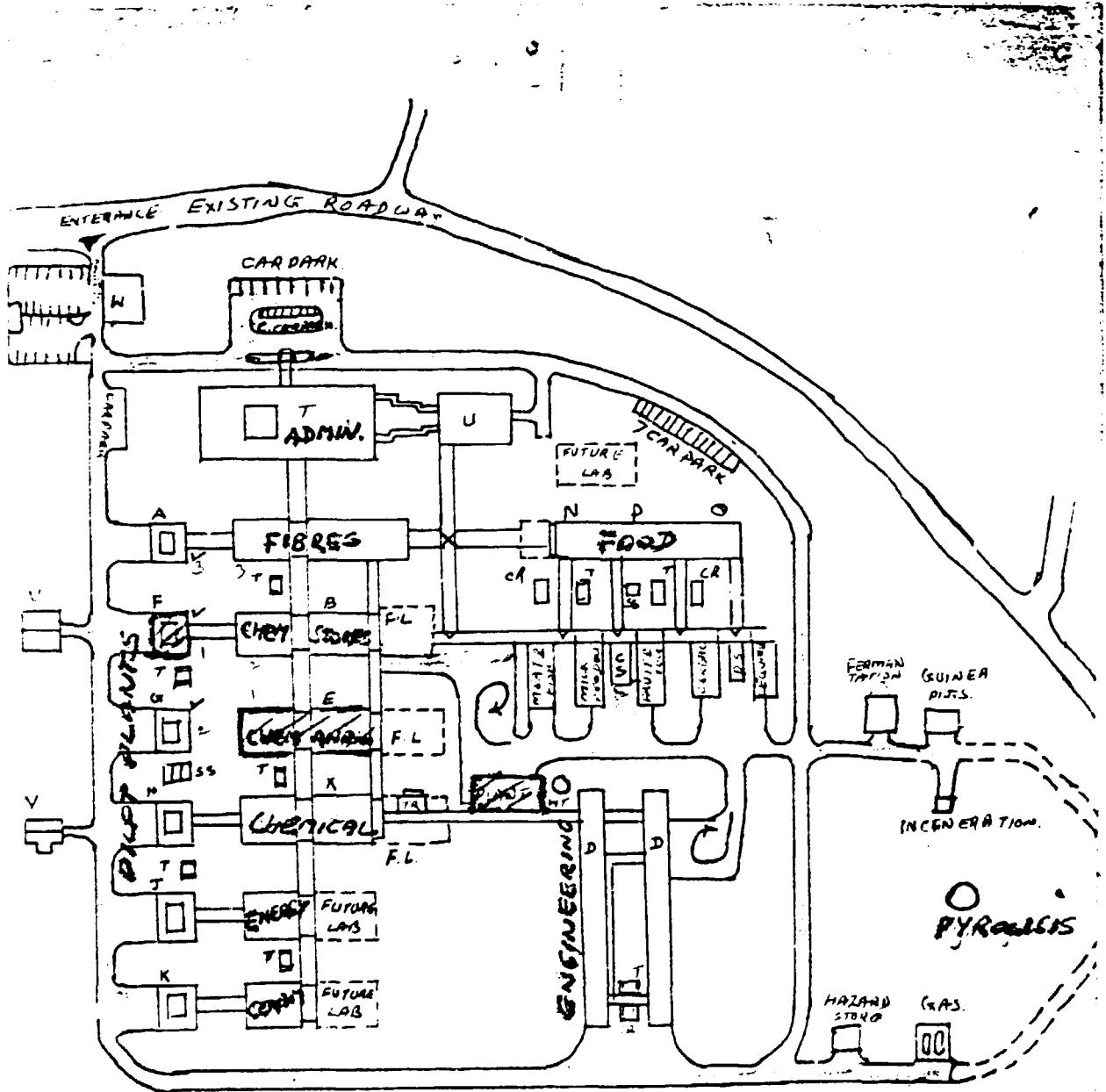
9. Actions required from UNIDO Headquarters

(a) To expedite recruitment of the Associate Expert in computer systems application. Contact with the Austrian authorities might produce a candidate. Some informal contacts have been taken already with the Informatics Department of the Technical University of Vienna.

- (b) To contact certain IRSI's with whom we have already established relations and which may be interested in providing assistance to TIRDO.
- (c) To contact the UN Volunteers office in Geneva and expedite recruitment of the UNV for maintenance and repair of instruments and equipment.
- (d) To provide the Tanzanian instruments staff with documentation on digital techniques and bio-medical equipment.
- (e) To contact Mr Peter Vuister of the IAEA on environmental problems in electronic workshops, and to see whether he could make a stopover during one of his future missions to look at the progress of this TIRDO instruments repair and maintenance facility.
- (f) To contact IO/PAC to expedite delivery of six air-conditioners and computer software.
- (g) To authorize a five-working day consultation visit of Mr Stone to UNIDO Headquarters as part of his home leave travel.
- (h) To bring UNIDO/IO technical staff members to TIRDO on stopovers as part of their field trips to Africa in order to run a one-day workshop on their individual specialities for the TIRDO R + D staff concerned.

ANNEX I

Plan of the buildings under construction
for the Tanzania Industrial Research and
Development Organization (TIRDO)



TIRDO Staff 1 July 1982

ANNEX II

<u>Post</u>	<u>Post Description</u>	<u>Incumbent</u>
1	Director General	C.L. Tarimu
2	Chief Research Officer	(Vacant)
3	Principal Research Officer (Chemist)	P.K. Haule
4	Senior Research Officer I (Chemist)	B.A. Mwingira
5	Research Officer I (Natural Products)	B.S. Mndewa
6	Research Officer I (Minerals)	F.K. Makinge
7	Research Officer II (Chemical Engineering)	G.J. Njau
8	Research Officer II (Chemical Engineering)	G.D. Mrema
9	Research Officer II (Mech. Engineering)	R.A. Chando
10	Research Officer II (Textile Technology)	J.S. Tarimo
11	Research Officer II (Textile Technology)	M.A.N. Shighavalle
12	Research Officer II (Mech. Engineering)	P. Victus
13	Research Officer II (Chemist)	M.A.L.L. Ganyara
14	Research Officer II (Textiles)	A.N. Magashi
15	Research Officer II (Analytical Chemist)	J. Kahatano
16	Research Officer II (Food)	J.L.M. Nyonyi
17	Research Officer II (Mech. Engineering)	R.M. Nindie
18	Research Officer II (Food)	A. Kashaija
19	Research Officer II (Electronics)	D.M.D. Shirima
20	Documentation Officer (Inf. Retrieval)	W.N. Nyonyi
21	Extension Officer (Inf. Extension)	A.J. Tingo
22	Senior Technician (Electronics)	G.S. Kidunda
23	Administrative Manager	P.F. Kvara
24	Chief Accountant	C.J. Mangugi
25	Account Assistant	W.A. Mbwilo
26	Account Assistant	J.G. Komba
27	Executive Officer	D.M. Ngaeje
28	Secretary	F.M. Mutalemwa
29	Secretary	F.P. Swai
30	Typist	V.R. Joshua

Distribution:

Dr A. Khane
Mr F. Carré
Mr R. Aguilar-Bolaños
Mr E.T. Balazs
Mr A.V. Bassili
Mr E. Becker-Boost
Mr L. Biritz
Mr D.A. Butaev
Mr F. Cuevas-Cancino ✓
Mr M. Delos
Mr A. Eraneva
Mr A.G. Evstafiev
Mr D. Gardellin
Mr G.S. Gouri
Mr M.H.A. Hamdy
Mr N. Ionescu
Mr J. de Jesús Gómez Sáenz
Mr G. Komissarov
Mrs I. Lorenzo
Mr M. Luqman
Mr M. Maung
Mr H. May
Mr S. Nanjundan
Mr K. Sepic
Mr M.A. Siddiqui
Mr N.N. Tandon
Mr R. Wijesekera

Mr P.H. Vuister, IAEA

Mr P.S. Reynolds
Mr S. Henein
Ms M.K. Nilson Dag
Mr C.A. Stone

Registry
Library
CRO

