

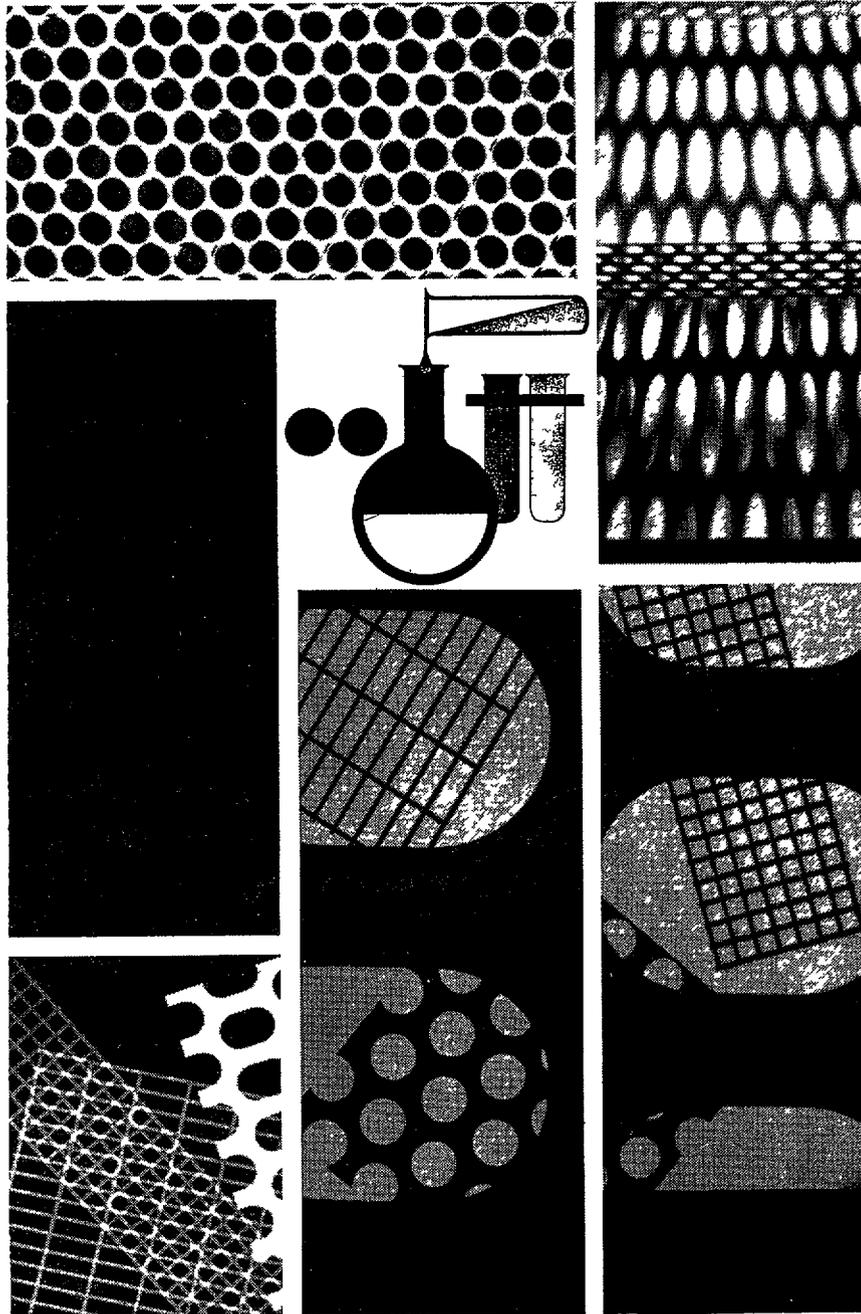
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# REPORT by

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PN-ACK-584

## KOREAN EXPORT INSPECTION OBSERVATION TEAM



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ADDENDUM

Appendices V and VI have proved to be too lengthy and costly to reproduce in quantity. They are available at USOM/K, IED-I, Room 502

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KOREAN EXPORT INSPECTION OBSERVATION TEAM

Tour of Hong Kong, Taiwan and Japan, 21 July to 15 August 1965

INTRODUCTION

Conceived by the Working Group for Quality Improvement and Technical Assistance (QITA) of the Export Promotion Subcommittee (EPSC) of the ROKG Ministry of Commerce and Industry (MCI) and funded by USOM/K, the Korean Export Inspection Observation Team's itinerary is set out in Appendix I

The creation of an Export Inspection Section in the Commerce Bureau of MCI and the designation of the National Industrial Research Institute (NIRI) in Seoul as the responsible agency (through NIRI's new Export Inspection Division) for organizing and developing an effective export inspection system, have been two of the more important milestones in the ROKG export promotion program in 1964 - 65.

These two new government activities were soon faced with a growing list of products, to be approved by ROKG for export only after proper inspection, but for which no adequate inspection facilities or staffs were available. NIRI's activities had never gone much beyond testing and engineering services to industry and even this assistance was admittedly thin in terms of both staff and facility. Moreover, NIRI was the only laboratory in Korea officially designated as a testing facility for the Korean Bureau of Standards on which latter agency's great additional demands were being made in connection with the export promotion program.

Existing inspection agencies, fisheries, agricultural products, cotton textiles, etc were also far short of the growing need and, in fact, there was an overall lack of information on how effective inspection systems for export products are organized, operated and financed

Therefore, it was apparent that before the requirements of staffing, training, equipment, fees, etc. could be successfully analyzed, a far better understanding of effective inspection systems was needed by the ROKG and USOM staff who were involved in the program, directly or as advisors. It was with this in mind that QITA recommended that the following members constitute an official ROKG Export Inspection Team to spend some four weeks in Hong Kong, Taiwan and Japan studying export inspection procedures and systems

- 1 Park, Seung Yup - inspection standards & specifications.  
Director, Bureau of Standards, Ministry of Commerce & Industry  
Chairman, Quality Improvement & Technical Assistance Committee
- 2 Shim, Ul Hwan - field and lab. operation of export inspection  
systems. Chief, Industrial Export Inspection Division, NIRI,  
Ministry of Commerce & Industry.
- 3 Kim, Ock - ROKG control, policing & legal aspects of export  
inspection. Chief, Export Inspection Section, Bureau of  
Commerce, Ministry of Commerce & Industry.
- 4 Choi, Suk Whan - textile inspection.  
Chief, 2nd Inspection Section (Textile Exports),  
Export Product Inspection Division, NIRI
5. Lee, Kuk Won - processed fish inspection.  
Director, Central Fisheries Inspection Office  
Ministry of Agriculture & Forestry.
6. Doo, Yoon Suk - processed foods inspection.  
Director, National Agricultural Products Inspection Office,  
Ministry of Agriculture & Forestry.
7. Niels C. Beck - back-up testing, engineering and quality  
control. Industry Advisor, USOM/K to NIRI
8. Im, Un Kyung - same as Beck.  
Chemical Engineer, USOM/K
9. Chung Myung Cho - machined metals and machinery inspection.  
Industrial Engineer, USOM/K.

On paper and in fact, the team was well balanced, mature, responsible and deeply interested in every way in what they had set out to do. It was an inspiration to work with them. Mr Koo was chosen as the official spokesman for the group and, variously among them, good language facility in English, Chinese and Japanese largely overcame the technical and/or language shortcomings of locally provided interpreters.

Team member interests provided good coverage of the critical areas in the broad inspection problem in Korea. Other areas of interest might have been included but team size and loss of a desirably broad approach would have been lost. Rather, these specialized problems may now be addressed directly as a result of the trip.

## 1. Choice of Areas Visited

The areas visited proved to be a happy choice, even as to the sequence of visits.

### Hong Kong

An economy which depends on built-in penalties \* and private agency inspections, e.g. Inteco \*\*, to maintain the vital balance of quality vs. price. One million dollars U.S /yr. in exports is often generated in cubby holes with the help of excellent banking and other credit facilities and the wide use of visual inspection alone or with little additional inspection equipment. In this respect, as a largely self disciplined private economy, Hong Kong resembles the industrialized nations of the West.

### Taiwan

Almost the diametric opposite of Hong Kong, Taiwan has developed a broad in-the-field inspection system with many branches (Bureau of Commodity Inspection and Quarantine), but with rigid, centralized control in Taipei of every export certificate issued. That it is also a country in transition is evident in a gradual swing toward government withdrawal by delegation of at least one agency (textiles) which was, formerly, an industrial association, under a two year contract to act as an official inspection agency, charging fees which with some government subsidy cover all costs and gives them financial and political independence. More are to follow.

Also, private foreign inspection groups such as Inteco are more widely used by buyers than is the case in Korea, altho government may insist on its own inspection in such circumstances, whether it is relevant to the buyers protection or not.

A claims arbitration system is already in evidence. Back up testing, engineering and quality control services are several years ahead of Korea, both non-government, as provided through the China Trade and Productivity Center, and government, as provided by the Bureau of Commodity Inspection and Quarantine, the Union Industrial Research Institute at Hsinchu, et al.

\* Claims and/or loss of reputation.

\*\* International Testing Company There are ten such agencies in Seoul

## Japan

If Hong Kong's export inspection structure is like the west and if Taiwan is a manifestation of some middle period of industrial transition, several years or more ahead of Korea, then Japan represents the very edge of heavy industrialization. In fact, the export inspection system is made up almost entirely of government designated, but still private, fee supported laboratories and staffs which were previously the inspection and testing divisions of industrial associations and co-ops.

This would seem to be the last step in an industrial evolution toward a self disciplined private industry with in-plant controls and laboratories for big industry and private, proprietary inspection and testing labs. for others.

The private engineering services already being offered thru the China Productivity Center (CPC) in Taiwan are everywhere in evidence in Japan plus a tremendous network of government supported or encouraged agencies, laboratories, college and university facilities for engineering and research services to industry and an extensive arbitration and claims mechanism.

Government retains direct control in limited areas, e.g. canned food, drugs, etc. and checks private lab. inspections periodically for accuracy and coverage.

The involvement of people in industry is another measure of progress, either directly in large plants or in smaller plants by subcontracts or through cottage industries or, indirectly, via service industries. Like Hong Kong, the industrial community has been very broad for a long time. Japan had mass production before WW II with its advantages of low unit costs and good management understanding of overhead. Upon this, after rehabilitation had come as far as 1955, she began to impose the beginnings of the present inspection, testing and quality control system. Now, in terms of people involvement, Hong Kong, Japan, Taiwan and Korea would rank in that order, 1, 2, 3, and 4. For other reasons (the refugee problem in Hong Kong is one) the wage levels and standards of living, especially at the workers' and farmers' levels are more like 2, 1, 3, 4. This overview will be useful in planning an export product inspection system in Korea that fits the local industrial need.

## MAJOR RECOMMENDATIONS

While this preliminary report is mainly concerned with export inspection, the Team's recommendations have been made to include observations on directly related needs (also see Appendices II and III).

Also, reports are now under preparation by each member of the visiting team, according to sections (fisheries, textiles, etc.), to be edited into a final complete report for ROKG

This report's recommendations are, for this same reason, preliminary, but they do represent the first consensus for the team. In this report, USOM/K - IED/I support or constructive criticism of these recommendations is simply one more step in the attempt to obtain approval and implementation of a comprehensive and attainable plan for more effective export product inspection.

1. Inspection System Reorganization in Korea

At the outset, it may be said that the export inspection systems observed in Hong Kong, Taiwan and Japan have been admirably adapted to the economic - industrial dimensions of local needs. While in this context, Korea is more like Taiwan, borrowing desirable and attainable features from any of the three models is dictated by common sense. It also follows that certain needs, unique to Korea, must be satisfied and there will be a continuing evolution of the system as additions, deletions, and revisions are cut and tried.

The relative success of Taiwan's unification and centralization of inspection activities surely suggests something like it for Korea and this should be effected as soon as possible in certain existing inspection systems, e.g. in textiles, textile materials, fibers, yarns, garments, etc.\* The existing Korea Textile Inspection Institute in Seoul (originally an industry owned and operated Spinners and Weavers Assn. inspection and testing facility - mostly cotton fabrics) has already evolved into a nearly independent, fee supported agency which can be made the base for an expanded laboratory and staff to handle many additional types of textile products by absorbing the present Textile Industry Co-op, Knitting Industry Co-op, et al. Equipment and staff needs in these categories are quite similar and NIRI's Second Inspection Section (Textiles) could focus aid on the development of a textile inspection system far more effectively.

Moreover, there are branches of the present textile inspection and testing co-ops in other cities, e.g. Taegu, that should be brought under desirable centralized control by such a merger. It would simplify problems extending from the propagation of standards and specifications information to the provision of in-plant engineering and quality control \*\*

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\* Another example of an area in which unification is needed is in electrical-electronic products, e.g. presently, there are six co-ops designated by ROKG to be responsible for export inspection Communications Industry Co-op, Dry Cell Battery Industry Co-op, Electric Wire Industry Co-op, Electric Industry Co-op, Battery Industry Co-op and Lighting Industry Co-op.

\*\* In concert with USOM/K plan for a truly national productivity center.

Inspection and testing fees could be standardized, more equipment could be better utilized and better staff provided and/or trained for improved coverage and depth of services

If the merger results in excess equipment or staff in any specific area of inspection and testing at the Seoul facility, this surplus could be redispersed at Taegu, Pusan or other industrial areas where it is critically needed.

ROKG, USOM, UN et al. assistance in equipment, staff training, experts and technical information could be better organized through fewer channels, most of it funneled thru NIRI

The merger could effect far better distribution of overhead costs and with realistic and acceptable fees (0.3 to 0.5% FOB)\*, accelerate progress toward financial and industrial independence.

## 2. Plant Classification

The Team has recommended that a kind of extension to the present Korean Standard Mark (KS) system be initiated to rate plants A,B,C and D according to their effort and the success thereof in establishing quality control and inspection procedures, a plan which has been realized with measurable success in Taiwan. The idea is not new to Korea but details must be worked out and implemented. Incentives would range from lifting Government inspections entirely, to more frequent inspections and the mounting cost thereof, to fines and other penalties including loss of export licences.

## 3. Problems and Other Recommendations

Recommendation #1 may or may not be the best example of beginning to combine, control and expand existing inspection and testing services, but a beginning must be made in spite of many problems.

a. ROKG had designated 112 items, as of July 1965 and not including minerals & food products, for obligatory export inspection. Even Japan has a list of only 500 items (with the same exclusions) and it has a vast organization for inspection, testing, engineering and quality control

b. The ROKG quota for 1965 exports was set at US\$ 170 million and MCI is bracketed by pressures to reach this goal on the one side and continuous warnings from NIRI to make haste slowly on the other. One industry group insisted that visual inspection alone was entirely adequate for a product that was already in trouble in the Vietnam markets and, anyway, who is going to notice during the war that is going on down there?

\* The going rate in the Far East.

c. If mergers are made, NIRI must still pick up the weaker co-ops for whom no merger is feasible, as is now apparent in several cases, e g. Machine Industry Co-op, for an indefinite period of supplying inspection and testing services to plants manufacturing such products, several of which are already being exported. But this burden, currently beyond even NIRI's capability, may be offset by transferring certain routine inspections and tests, with equipment and staff (?), if needed, to the newly combined co-ops.

d. In most cases, continuing ROKG subsidies will be required for some indefinite period before complete financial independence can be achieved, but it is the Team's recommendation that no co-op should be officially designated for export product inspection until it has 1) the staff and facility to do the job and, 2) with or without ROKG subsidy, complete financial, legal and administrative independence from the product manufacturers.

e. Another recommendation (and problem) is the creation of a product design and engineering center,\* possibly by industry controlled co-ops or assns and an inspection and testing center for packing, shipping and handling export products, probably at NIRI. (but see p. 15 #4 a and b).

f. The establishment of a claims arbitration board has also been recommended. Problems are many and details of the recommendation must be worked out in the next few months.

g. Finally, the problem of ultimate authority and approval for export must be solved. At the present time several ROKG ministries (MCI, MOAF, etc.) have this responsibility for different products and the confused communications regarding export problems which were reported to the Team at Hong Kong, Taiwan and Japan seem to stem largely from this source. The recommendation here is also under further study by the Team, but it obviously affects the following recommendation

h. No waivers of inspection are to be allowed for any reason whatever, because products will not be put on the obligatory inspection list until and unless an adequate facility and staff are ready and able to do the inspection. This requires removing many items now on the list, but otherwise it is not an unusual situation. In Taiwan only 260 items out of a total of over 1000 exported are under obligatory inspection, in Japan only 500 out of several thousand. In both countries the team got desultory answers to the question of how to stop junk goods from getting into foreign markets under such conditions, but part of the answer seems to lie in the difference between low grade and below grade products

\* in a closer examination of the Korean version, what is probably meant here is a control center for designs to prevent imitation, "cut throat" competition, etc. among Korean manufacturers, but assistance is needed in product design (now planned to be provided thru the Seoul KFC?) and packaging. This latter and very great need has not yet been addressed by anyone. See also p. 15, a.

For example, in Japan an inspection specification may be set for very low grade products, e.g. some toys are still pre-WW II quality, which are far below the JIS Products inspected to meet this low standard may be exported as long as they are not misrepresented i.e. they are low grade but not below the grade on the label that indicates to both seller and buyer what specification was used. One cannot avoid commenting that especially for ROK products, whose reputation is already in jeopardy, it would also be helpful to delete any obvious reference to country of origin, in such cases. Altho this is not perfect reputation protection, it should minimize false assumptions that all ROK products are low grade. On the other hand, misrepresentation of grade must be subject to severe penalties and there is probably a threshold at which even the proper representation of low grade products becomes impractical, e.g. recent shipments of GI sheet to Vietnam at a grade too poor for any acceptable utility.

Another possibility for monitoring below grade and/or uninspected products is the employment of private foreign inspection agencies like Inteco, a prevalent practice in many other countries, but still not used to full advantage in Korea.

In any event, a clear understanding of titles and terms being used is especially important now that the Export Inspection Law of October 4, 1962, is under consideration for possible revisions. The law had already placed "designated" commodities under obligatory inspection for export so that there were three commodity classes

- I) Designated commodities requiring inspection according to specific criteria except in certain circumstances of "destination"
- II) Other commodities approved for export without inspection.
- III) Commodities produced for the domestic market.

Class I until exceptions (exports to Vietnam?) are better defined, this section of the law is an invitation for violations.

Class II these commodities cover or should cover, a) products of consistently high quality from, for example, A Class plants (see P. 6 #2) and the low but not below grade commodities (p. 7 par. h), but if, as has inadvertently occurred, all kinds of uninspected items including below grade continue to get into foreign markets in quantity, ROK reputation will be irreparably

damaged. In other words, whenever ROKG finds it impossible or impractical to require inspection of certain product lines for export, this does not mean that the only other alternative is a complete laissez faire attitude. Measures must still be taken to identify those manufacturers whose products are consistently up to or above grade as well as those whose knowledge of low grade export markets and products avoids impugning the reputation of all ROK commodities.

### IMPLEMENTATION

Inevitably, anything that is useful, practical and good to do is hard to do. I am going to depart, here, from the Team "spirit" and make some recommendations that do not necessarily reflect Team member's opinions.

#### 1. Inspection System Reorganization

Since this recommendation (P. 5(1) and the corollary p. 7 (c)) were put up to the Quality Improvement and Technical Assistance Working Group (QITA) of the Economic Promotion Subcommittees (EPSC) in September 1965, opposition has been mounting among a number of existing inspection agencies against any simplification of the problem whatever (see Appendix III). If this opposition prevails, then all other Team recommendations are jeopardised for lack of an efficient system for implementation. For example, how otherwise could the recommendation (P. 7 (d)) re. competence of 1) staff and 2) facility be attained?

It certainly would be equally undesirable for NIRI to try to become everything to everybody as the sprawling Bureau of Commodity Inspection and Quarantine in Taiwan has done, but especially as an ad interim measure, some system simplification through centralization has got to be accomplished.

Centralized control of approval is probably even more difficult to achieve, but communications, including complaints and claims, cannot be effective without it. Centralization may mean a capable, responsible and informed officer (or office) for each important export product line who reports to some central ROKG office, e.g. Export Inspection Section of MCI, and who receives from that office information re. complaints, claims, recommendations, etc. from NIRI, provincial laboratories, inspection agencies, KOTRA and the diplomatic corps abroad. These product line offices or officers might be organized out of the present "Commodity Chief" system of EPSC after necessary screening of such appointees for being "capable and informed "

## 2. Plant Classification (p. 6 (2))

It would seem logical to handle this through the same organization outlined in #1 foregoing. The USOM expert in quality control could assist in the implementation.

## 3. Industrial Area Program

The USOM industrial area programs articulate exactly with the objectives of the Team's recommendations. The application of in-plant experts, regional laboratory build-up and technical information assistance can provide the testing, engineering and quality control back-up required for any effective inspection system.

The Bureau of Standards should be brought into this picture, through the new and growing Korean Standards Association, possibly by the latter's representation on the staff of local productivity centers as part of the plan to coordinate productivity activities in the Korean Productivity Center in Seoul.

The analysis of the Seoul-Inchon and Taegu areas needs for experts and equipment are well enough along that USOM/K has begun implementation. The first pass at the Pusan area is summarized in Appendix IV with further study indicated there and with Kwangju and possibly other areas to follow \*\* In this connection, some specific observations about coverage may be useful

In a country like Korea, where industry is growing and changing at an accelerated rate, detailed accurate surveys are necessary as a base for keeping each key industry updated, annually, for a variety of purposes. A recent survey of the iron & steel foundry industry in Korea, conducted by the Metallurgy Section of the Second Industry Bureau of MCI is a case in point

Discrepancies have occurred in this survey, as might be expected, but most important, it is a beginning and with the help of the Korean Foundrymen's Society could be filled in and rounded out into the desirable base survey, to be updated annually by the same organization with vastly less difficulty than that involved in the first basic survey.

A quick overview of the existing survey shows that there are, over 200 small to medium size (\$50,000 +/yr.) iron and steel foundries in Korea grossing the ~~W~~ equivalent of over \$15 million dollars/yr. (1964) Obviously, some multiplier effect (societies, seminars, interplant visits, information centers, etc ) are needed to reach the bulk of these without an army of experts. However, with the best conceivable multiplication no one expert can cover the Seoul-Inchon area and also reach the most important industrial centers outside this area \* The Taegu and Pusan areas alone contain 35% of all Korean foundries vs 47% for Seoul-Inchon

\* assuming that the survey figures are reasonably comprehensive, but this still needs to be confirmed.

\*\* but now see Appendix VIII

Even these brief data begin to indicate the volume or number input of experts, information and inspection and testing equipment required as well as the relative importance of the foundry industry vs. other industries. Most of Korea's key industries lack comprehensive and detailed surveys.

Finally, in the matter of foreign experts, terms of employment for less than a year would seem to make it hard to recruit good men and harder still for them to realize measurable results. The advantage of testing the man on the job while retaining the contract right for rejection appears to be offset by the limited number and quality of applicants produced.

#### 4 Korean Personnel Training

The problem of training line and staff personnel for export product inspection systems is the most difficult of all. The need is apparent at NIRI and in existing ROKG agencies and industrial co-ops. Two measures are recommended for what might again be called the deliberate haste required to fill this great need:

- a) As suggested by the Team through QITA to EPSC, an expert in inspection organization and administration, now identified as Mr. William Wei, Executive Secretary of Council for Economic Cooperation and Development (CIECD) in Taipei, should be officially invited by MCI to come to Seoul as soon as possible for about two weeks to discuss problem areas and exchanges of personnel with MCI, NIRI, ROKG and industry inspection agencies, co-ops and local industry.

It is expected that an effective detailed plan for inspection system organization and inspector training can be accelerated thereby and coordinated with.

#### 5 Asian Productivity Organization (APO)

While in Tokyo, the Team was advised by APO officials that additional funds would be available in 1965-1966 for visits by APO and APO sponsored specialists in several very useful areas (see Appendix VI) related to export inspection problems. It is hoped that this help can be coordinated and realized thru the Korea Productivity Center in Seoul.

## 6. Gage Laboratory

Korea does not have a comprehensive gage laboratory. A gift set of metric weights and measures has been offered by the Government of the U S thru the National Bureau of Standards to the newly conceived national institute for applied science and research. It should rather be placed in the Korean Bureau of Weights and Measures as part of a national gage laboratory with unlimited access by industry for a reasonable fee.

Korea needs, at this time, only a few national standard gages. Reference to others is rarely required and the U S or Japan could provide the service at nominal cost. But standard gages for recalibrating a variety of industrial master gage sets is a serious lack. The impres-sion of mass production is a frequent phenomena in Korean industrial plants, assembly line and all, but a closer look too often proves that the product is being "hogged down", maybe all along the line, to tolerances making final assembly possible, but the essential quality of replaceability of parts has disappeared and, in fact, a crude "custom made" product is the result. No spare parts are available because none would fit and repairs become another kind of "custom made" task.

Without recalibration facilities at the level above in-plant master gages, even those plants initiating a true quality control line with proper instruments are inevitably bound to lose control without a reference facility. The gage lab. would provide this, only in the area of dimensional control, but this would be a very important beginning, especially in plants now trying to produce good machines and machinery. Only two plants, the ROKG Arsenal at Pusan and Hankook Machinery Co at Inchon have in-plant, master standard gage sets, both incomplete and accessible to other plants on a very limited basis.

## 7. NIRI

NIRI continues to suffer from the stultifying effects of salaries so low that staff must "moonlight" in order to live\* and the imposition of vast new or increased national responsibilities in fields of export product inspection and quality control through physical testing. Some relief must be found somewhere from this dilemma. Internally, also, NIRI must make its present Analysis Laboratory the laboratory for back-stopping the inspection program, at home as well as in the provinces and the provincial laboratories. The concept of two separate laboratories, one for export product inspection and testing and the other for NIRI's routine testing services, is unthinkable at this time.

Originally, the Analysis Lab. was set up under a separate section chief to handle the kind of routine tests that ROKG and industrial clients needed to measure the quality of a variety of products which could not be measured by sensory (visual, olfactory, tactile, etc.)

\* NIRI salaries, p. 12, par. 7, were increased effective October 1, 1965 by some 80%.

inspection alone. In other words, this has been an inspection laboratory from the beginning and staff for this type of testing were to be centralized in the new Lab along with stores, equipment spares and the pertinent literature.

The project labs (ceramics, organic chemistry, textiles, etc.) were thus to be able to concentrate on any unusual testing requests as well as engineering, trouble shooting and some research. Recently, however, NIRI has removed the section head of the Analytical Lab and fragmented the testing function control again with the project lab chiefs being responsible for tests in their various areas, but performed in the Analysis Lab. It is difficult to see how this decimation of responsibility, stores, equipment and literature can be justified at a time when NIRI is virtually submerged by a spate of industrial requests for pre-inspection and inspection type tests generated by the Export Promotion Program.

In fact, in the long run there should be a radical reorganization, bringing the standards and specifications function together with the physical laboratory (NIRI) that serves it and the ROKG Bureau of Weights and Measures which latter function is so closely related that centralization would save time, money and inconvenience for both ROKG and industrial clients.

The organization chart for this merger is presented on p. 13a. The relationship of a planning staff in the Metrology section for long range plans for a progressive system of national standards is a natural one that can be developed thru the independent offices of the Korean Standards Association. Also, the NIRI library offers the best existing foundation in Korea for the entire operation.

#### 8 Industry Estates to Facilitate Inspection

This has a somewhat different context than that usually associated with this title.

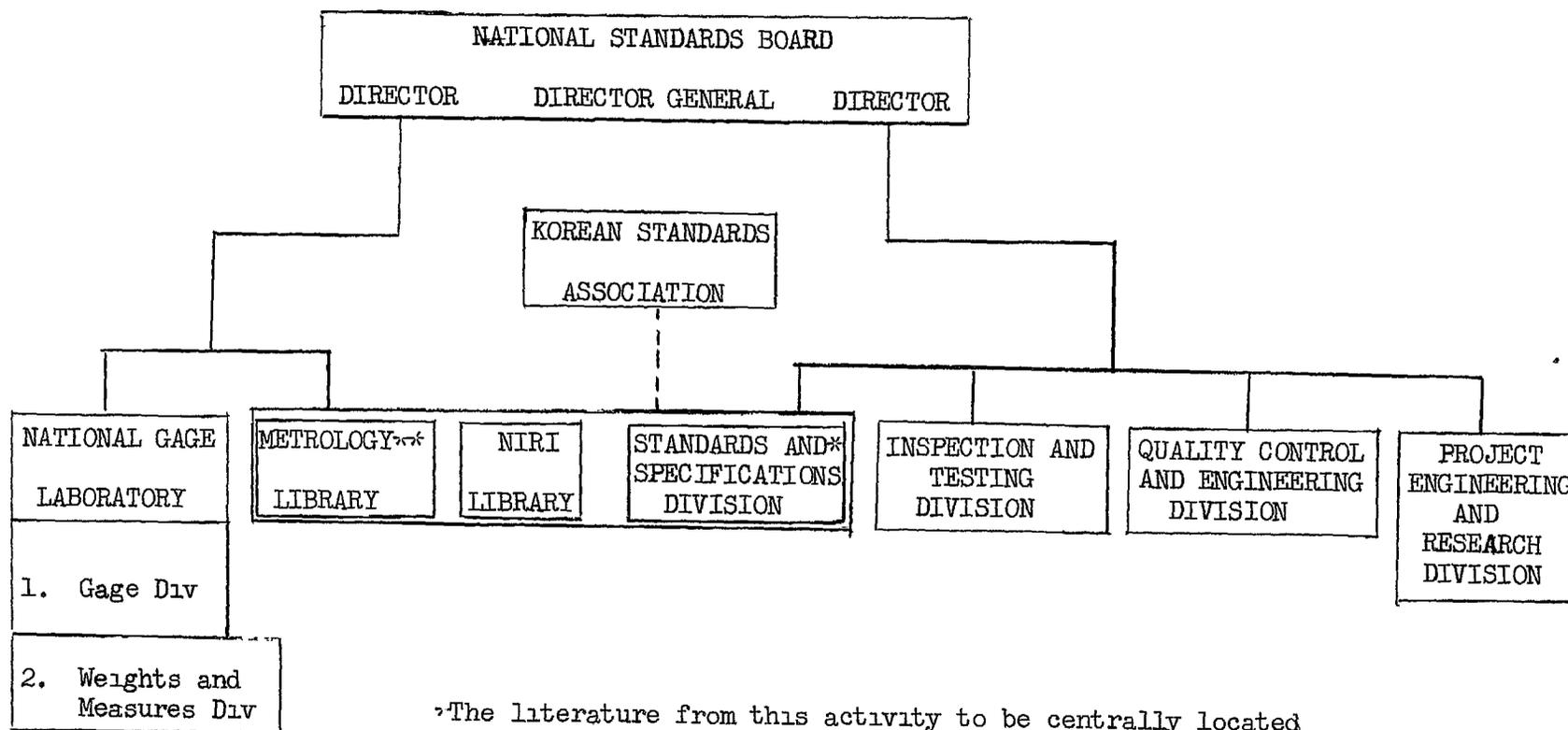
See Appendix II, pp. 3-4, Industry Estates, beg. par 6 on p 3

#### OTHER IMPORTANT DETAILS

The exact translation of the Team's recommendations are herewith presented for additional and important details and suggestions for implementation.

1. Unification and Strengthening of Government and Private Inspection Agencies.

CHART I



\*The literature from this activity to be centrally located along with the metrology literature\* for easy access by all Board activities and placed under supervision of Korean Standards Association in a special section of the NIRI library.

It is important that private inspection agencies should be independent from export firms financially and organization-wise in order to maintain impartiality in inspection. In order to achieve this primary objective, the following steps are recommended:

- a. Inspection agencies handling similar commodities will be combined and formed into a single non-profit organization with physical facilities detached from such agencies. For example.
  - 1) Textiles - Fiber Inspection Agency  
Fabric Inspection Agency  
Knit Goods Inspection Agency
  - 2) Metals & Machinery -  
  
Bicycle Inspection Agency  
Automobile Inspection Agency  
Metals Inspection Agency  
Non-Ferrous Metals Inspection Agency  
Agricultural Machinery Inspection Agency  
Machinery Inspection Agency
  - 3) Electrical - Communications Inspection Agency  
Electrical Inspection Agency  
Electric Wire Inspection Agency  
Battery Inspection Agency  
Dry Cell Inspection Agency  
Illumination Inspection Agency
  - 4) Miscellaneous -  
  
Furs & Bristle Inspection Agency  
Handicraft Inspection Agency
- b. Inspection agencies which do not have adequate personnel or facilities or whose export volume is not large enough to permit independent income should be abolished by cancelling the designation of inspection agencies and should be handled by NIRI's Export Inspection Division until such time as these conditions are met.
- c. Designation of new inspection agencies, either Government or private, will be withheld and existing facilities will be consolidated in order to encourage the development of effective and sound inspection systems.

New inspection agencies will be carefully screened as to facilities, personnel, independent income, neutrality, etc. before designation.

- d. Duplication of facilities resulting from the proposed unification will be used to set up branches in industrial areas (Taegu, Pusan, etc.) in order to facilitate the inspection procedure
- e. Routine testing and analysis requested by government or private organizations, which hitherto have been handled by government laboratories, will be turned over to private inspection agencies as much as possible so that inspection agencies will derive an additional income as well as to build up public confidence, at the same time freeing government laboratories to other works.
- f. These steps should be taken gradually and step-by-step with persuasion of interested groups and with administrative support from the government.

2. Re-consideration of Inspection Exemption.

- a. The current system\* for export inspection exemption cannot find its parallel in other countries, is irrational in many respect. Therefore, such a system should be abolished
- b. Enterprises who maintain good inspection systems (facility and personnel) should be given special privileges such as simplified procedure and reduced inspection fees so as to encourage their own quality control.
- c. Inspection of export goods to special countries such as Vietnam should be compromised (sic) in order to reflect the circumstances of the buyer countries, at the same time gradually raising the inspection standards to standard level.

3 Adoption of International Arbitration System

International arbitration association should be formed as soon as possible to assist export promotion by handling claims arbitration. Laws and treaties governing such arbitration should be established also.

4. Measures to Prevent "Dumping".

- a. Preventive measures are urgently required to eliminate unnecessary competition among exporters (Korean) in the overseas market, which results in loss of confidence by buyers as well as decreasing export price (for example, recently export price of rayon fabric dropped from 18 cents to 12 cents per yard)

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\* This refers to lack of centralization, coverage and quality of inspections.

- b. In order to prevent such practice, it is necessary to establish measures such as inspection of samples, price check through KOTRA and diplomatic missions, registration of designs, etc

5. Exchange of Inspection Experts.

- a. Specialists from Japan, Taiwan, etc. should be brought in to assist in the training of inspectors.
- b. Inspectors should be trained in other countries.

6. Strengthening Export Inspection Facilities.

In order to provide inspection services comparable to international standards, necessary instruments should be furnished.

7. Improved Compensation to Inspectors.

To assure impartial inspection, inspectors should be paid adequately (at the level of tax collectors).

8. Classification and Packaging of Agricultural and Fisheries products

The poor packaging materials and methods are one of the most important reasons for lower quality of export goods. For agricultural and fisheries products particularly.

- a. Classification and grading should be more precisely (dried mushroom, abalone, cuttle fish, etc.) controlled.
- b. Fish boxes used in shipping fresh fish to Japan are too weak and poor quality. Good quality wood of adequate thickness should be used. Also, the standard weight (15 kg.) per box should be maintained. (The Team observed during unloading of the fresh fish at Shimonoseki that 6 boxes were broken during short period).

APPENDIX I

Itinerary for Export Inspection Systems Observation  
(Hong Kong)

July 21, Wed. Lv. Seoul for Hong Kong via CPA at 09:00  
Ar. Hong Kong, stay at President Hotel

Visit: Korean Consulate General in Hong Kong

July 22, Thurs. Visit: KOTRA Hong Kong Office  
BOK Hong Kong Branch  
Branches of Korean trading companies  
General Seafood Market

Meeting with representatives of KOTRA  
BOK and trade companies.

(to be arranged by Consulate General  
and KOTRA office).

July 23, Fri. Visit: Oyster culture  
Oyster canning plant  
Artificial Flower manufacturer  
Hong Kong Government Office  
Customs Office  
Customs Warehouse

(To be arranged by KOTRA)

July 24, Sat Visit Cloth Manufacturer  
Boots manufacturer

(To be arranged by Consulate General)

July 25, Sun. Lv. Hong Kong for Taipei via CAT at 13 05.

Itinerary for Export Inspection Systems Observation  
(Taiwan)

July 25, Sun. Ar. Taipei at 13:20 via CAT  
Stay at Nanking Hotel

July 26, Mon. Visit: Korean Embassy  
USAID/Taipei  
Taiwan Productivity and Trade Center  
Bureau of Inspection  
  
(To be arranged by Korean Embassy).

July 27, Tues. Visit Handicraft Center  
Lio Ho Cotton Weaving Mill  
Tatung Engineering Co  
Carbon Black Plant  
  
(To be arranged by Korean Embassy  
and USAID/Taipei).

July 28, Wed. Visit Agricultural machinery manufacturer  
Bicycle manufactuer  
Radio manufacturer  
Machinery works  
  
(To be arranged by Korean Embassy  
and USAID/Taipei).

July 29, Thurs. Lv Taipei for Keelung via RR  
Ar. Keelung hotels to be reserved by Korean Embassy  
  
Visit Keelung port  
Customs warehouse  
Mushroom plant  
  
(To be arranged by Korean Embassy  
and USAID/Taipei)

July 30, Fri. Visit. Free trade zone  
  
(To be arranged by USAID/Taipei).

July 31, Sat. Lv Keelung for Taipei via RR

August 1, Sun. Lv. Taipei for Tokyo via NWA at 13:30.

Itinerary for Export Inspection System Observation  
(Japan)

- August 1, Sun. Ar. Tokyo at 18.25 via NWA  
Stay at Daichi Hotel
- August 2, Mon. Check-in with USAID/Japan  
final confirmation with APO regarding schedules.
- August 3, Tues. Visit Korean Legation  
Japanese Ministry of Trades  
Japanese Ministry of Agriculture and Forestry  
(Bureau of Marine Products and Foodstuff)  
Industrial Products Inspection Institute  
  
(To be arranged by Trade Attache).
- August 4, Wed. Visit. International Commercial Arbitration Assoc.  
Japan Agricultural Standards Assoc.  
Canned Food Inspection Assoc.  
Export Product Inspection Institute  
  
(To be arranged by KOTRA and APO)
- August 5, Thur. Visit Export Products Inspection Institute  
Tokyo Industrial Testing Laboratory  
Textile Inspection Institute  
Nippon Denki Co. Inc.  
  
(To be arranged by KOTRA and APO)
- August 6, Fri. Visit. Metallic Toy Inspection Agency  
Rubber Products Inspection Agency  
  
(To be arranged by KOTRA and APO)
- August 7, Sat. No visits
- August 8, Sun. Lv. Tokyo for Nagoya via RR.  
Ar. Nagoya hotels to be reserved by Korean Legation
- August 9, Mon. Visit: Pottery Inspection Agency  
Plastic Products Inspection Agency  
  
(To be arranged by KOTRA and APO)  
  
Lv. Nagoya for Osaka via RR  
Ar. Osaka, stay at Grand Hotel

August 10, Tues. Visit Toyo Can Manufacturing Co  
Artificial Pearl & Glass Association  
Sewn Clothes Inspection Agency  
Yanmar Diesel Engine Mfg. Co.  
  
(To be arranged by APO)

August 11, Wed. Lv. Osaka for Kyoto via RR.  
Ar. Kyoto, hotels to be reserved by Korean Legation

August 12, Thurs Visit Silk & Synthetic Fiber Inspection Agency  
Habutai Weaving Plant  
Kyoto Textile Inspection Agency  
  
(To be arranged by APO)

August 13, Fri. Lv. Kyoto for Kobe via RR.  
Ar. Kobe hotels to be reserved by Korean Legation.  
  
Visit Pearl Inspection Agency  
Metals Inspection Agency  
Knit Goods Inspection Agency  
  
(To be arranged by APO)

August 14, Sat. Lv. Kobe for Shimonoseki via RR  
Ar. Shimonoseki, stay at Suisan Kaikan  
  
Visit. Fish Market  
  
(To be arranged by Korean Legation)

August 15, Sun Lv. Shimonoseki for Hakodate, Hokkaido via JAL  
Ar. Hakkaido, stay at Hakodate Hotel

August 16 Mon. Visit Cannery  
Canned Food Inspection Agency  
Port facilities  
  
(To be arranged by KOTRA and APO)  
  
LV. Hakodate for Tokyo via JAL  
Ar. Tokyo, stay at Daiichi Hotel

August 17, Tues. Check-out with USAID/Japan

August 18, Wed. Lv. Tokyo for Seoul via NWA at 11 00  
Ar. Seoul at 13:03

## Appendix II

### Partial list of observations, ideas and suggestions

Regional competition - industry leaders in Taiwan have already noted and deplored the similarity of export products in the Far East and Southeast Asia, e.g. plywood, cement, fertilizer, textiles, ceramics, etc. The "labor intensive" orientation, per se, creates market gluts, e.g. radios, shoes, especially rubber shoes; sewing machines, handicrafts, artificial flowers, etc. In fact, Taiwan industrialists consider this the number one problem in exports, followed by tariffs and quotas set by buyer nations.

In Hong Kong and elsewhere so-called "dumping" by Red China is being given a new hard look, because in many product lines it is not "dumping" (short term losses to make long term gains) at all, but rather low grade, low cost and low price goods that will flow continuously and in increasing quantities into every market that is open to the communists.

Red Chinese department stores in Hong Kong have grown from one in 1958 to six in 1965 by featuring these goods.

These are considerations to be carefully weighed in the ROKG export promotion program. Lists provided by KOTRA at Hong Kong (App. VII) should be carefully studied and similar information worked up by KOTRA in Taiwan and Japan to determine where and in what product lines, "cut-throat" competition is a hazard. What follows is patent, stay away from those products or markets where ROK cannot compete \*

One more suggestion in this area - Hong Kong has already passed a peak in building construction and there are indications that the market for many manufactured products is leveling off, another factor to be weighed in the ROK program, but rising prices, wages, and the water shortage have driven many Chinese entrepreneurs to look abroad for new plant sites, especially Taiwan, where wages, utilities, rents and land are far cheaper. There should be some way for Korea to take advantage of this situation also

KOTRA in Hong Kong - Team members agreed that, although the contact was brief, KOTRA seemed to be doing a good job (in the face of short budget and difficult conditions) under the direction of Mr. Yie, Yul. Lack of Korean trader representatives in H.K (none vs. 120 from Japan) is a handicap. Failure of ROKG to act on information forwarded to Seoul appears to be due to the divided export authority detailed elsewhere in this report.

\* As in all commonwealth territories the Commonwealth "discount" of as much as 20% must also be computed in any analysis of competition.

The schedule of visits in Hong Kong was exceptionally well planned and implemented by KOTRA, the Bank of Korea representative and the Korean Consulate.

Complaints - one of the Inspection Team's observations was that complaints have very limited value unless they can be analyzed precisely as to the kind and degree of damage, spoilage, defects, misrepresentation, etc. Many of the following complaints certainly do not fit this definition but, rather, they are examples of the kinds of complaints that should be run down and analyzed in detail as to cause and correction. The most serious were concerned with lightly processed items, especially food, e.g. Korean laver is not properly packed to keep it dry in humid climates, Korean cuttlefish are poorly graded for size and drying processes seem crude and uncontrolled, dried fungus is often received without any grade or classification marks whatever, peigne (low grade unreeled cocoons) is not properly marked or not inspected at all, in a product area previously believed to have adequate inspection, human hair and hog bristles, Korean imports have a reputation for mixing grades without proper marking or separation.

Korean agar agar was criticised as being graded one to two levels above the real grade (short raw materials at home may be the cause) and similar complaints were heard regarding Korean saccharine and peppermint oil.

Korean dry batteries have been reported to have a shelf life of less than 30 days and canned top shell has been received black in the can (shippers and cans were not identified). Korean (Alaskan) canned pollack in Japanese imported cans and cases, both previously tested to satisfaction at NTRI, were found stacked, in a small wholesalers combined shop and warehouse, 15 cases high, the bottom 2 or 3 rows already crushed by stock weight alone and many other cases so badly handled (pierced as if by a metal rod, packing case corners ripped off, etc.) that a quick count indicated some 20% of the cans would be unacceptable at the properly marked grade on the case, i.e. as they were graded at the Korean cannery.

In Taiwan, previous shipments of Korean barite ore (for mfg. lithopone) tested an average 3.9% vs 4.2 % specified and resulted in a claim. This gives some idea of the tolerances required in some contracts and may also be the answer to another problem, i.e. closer examination of this complaint was said to prove that Korean barite deposits are widely spread, thin and quite irregular in purity so that it was impossibly costly to maintain specified purity. This may also be the best answer to the often repeated question of why doesn't Korea manufacture its own lithopone?

Re-export - in Hong Kong a grass wallpaper dealer suggested that while an effort was being made to develop better designs, colors, etc. locally in Korea by importing talent and/or training abroad, contracts might be made to import the semifinished paper (maybe complete except for final design) into Hong Kong for re-export. Some \$237 million (U S ) in many other products were re-exported in 1964 from Hong Kong after similar "finishing".

At least, ROKG could do some "shopping" with this possibility for better terms than are now available from Japan.

Bonded Processing - while this title is usually applied, in Korea, to low value-added-by-manufacturing processes, often hardly worth the effort, Hong Kong industries shop for and find many profitable combinations with buyers providing varying amounts of needed materials depending upon specification, availability or cost of local supplies. KOTRA should promote similar contracts for Korean exports.

Equipment and Machinery - especially in Hong Kong where low cost labor is still an asset, albeit fast disappearing, the equipment and machinery needed to assure quality according to both specification and competition is very much in evidence, regardless of expense, e.g. the precision dies and die shop needed for high quality artificial flowers, the automated (mechanized plus closed circuit feed-back) shoe last cutter for leather shoes so that length and width, e.g. 8c, are exactly according to specifications. Many other phases of the manufacturing processes may look like U. S circa 1900, but never as to the essentials. Moreover, the whole operation has been carefully analyzed and inspections are concentrated at the critical points, never left as is the case so often in Korea, until final assembly where rejects are most costly.

The artificial flower example is worthy of one additional comment. It looks as though the multiplicity of plants in Hong Kong, Taiwan and Japan could supply the world market for the next 100 years, and older plants are still being expanded and new ones being built. One cannot help but wonder how long the boom will last, to what extent is this a "novelty" item which are usually subject to critical changes in demand, how long and at what cost can designs, materials and colors be varied to continue market growth, etc. In any event, these are some of the considerations that Korean exporters should study before importing skills or sending trainees abroad to improve the local industry.

Industry estates - this concept of promoting industrial growth via low cost land sites, rentals, taxes, utilities and industrial services has received considerable government support in Taiwan and was extended into the export promotion program in the form of the Export Processing Zone at the port city of Kaoshiung.

There are other industrial estates in Taiwan, one of which looked rather neglected and less than 50% occupied near Keelung, but it is claimed that the Kaoshiung development has over 200 applicants in the queue waiting for its completion in 1966. Considering the complete failure of ROKG efforts to promote the idea, this certainly indicates a closer look at Taiwan's approach (see app. V)

Some of these "estates" offer such facilities as centrally treated water supply, specialized electric power, gas, sewerage, storm, fire and police protection.

At Kaoshiung, the plan is aimed at providing sites according to a "key" export industries priority list, e.g. Priority #1: precision instruments, electronics, and metal products, #2: electrical appliances and leather and rubber products, #3: handicrafts. These priorities were established by a Stanford Research Institute survey as early as 1960. Inspection and testing facilities will be readily available in the "Zone" and special technical assistance and advice will also be provided.

It would seem reasonable to begin such an effort at some city, e.g. Pusan, where a first class, all season deep water port would require the minimum, rather than the maximum effort, e.g. Inchon.

Joint ventures - while at first sight, industry in Taiwan seems many years ahead of Korean industry, a closer look reveals only a few major factors which separate the two. The Team agreed that these were:

- 1) Joint ventures, especially with Japanese and U.S manufacturers and/or with overseas Chinese playing a role in the partnership: financial, technical, materials supply, marketing, etc and especially in the food canning or other food processing industries
- 2) Sugar - 30% of Taiwan's total exports, a windfall, as it were, of a "natural" product and an unexpected political development in Cuba.
- 3) Indigenous lumber and timber products including plywood, wood handicrafts, etc.
- 4) Credit facilities

Elsewhere, industries were extremely similar to Korea's, quality and quality control still a big problem and export possibilities no more than 4-5 years ahead of Korea

On the other hand, on the perimeter or outside "industry", as such, are a far more advanced and scientific agriculture, a greater involvement of people in subcontracts or rurally located plants, particularly, food processing plants, a burgeoning services industry (business offices, housing, banks, restaurants, shops, hotels, etc) and tourism.

Nothing succeeds like success but certainly Korea could do more in the area of joint ventures, "overseas Koreans" and the rapid development of a food processing industry, which latter is possibly the quickest way of involving rural populations in industry. This discussion may not seem relevant to export product inspection but no one can deny that, to take a single example, if Taiwan can make a \$16 million export out of canned mushroom, Korea should be able to make its canned fish exports overshadow any export product Taiwan now produces, including sugar. The Korean peninsula lies in a veritable fish hatchery, the envy of any other nation in the world.

However, nothing really good can happen until the local canning industry (from imported and local materials to manufacturing, canning, shipping and off shore warehousing and marketing) gets on top of several critical non-technical problems. Until then, inspection, testing, quality and quality control are empty words.

Another suggestion regarding joint ventures is to contact the international divisions of many of the companies already involved in such enterprises in Taiwan, e.g. Westinghouse, General Instruments Corp, Proctor & Gamble, Honda, Toshiba, etc. and do some shopping for favorable contracts in likely product areas.

Handicrafts - the Taiwan model in this product area seems more than worthy of imitation for a country like Korea, in which quality and quality control are so much of a problem. It took over six years to establish this model and the Team has already recommended (see P. 11, Par. 4 of report) that contacts be initiated immediately to exchange people and ideas toward establishing something similar in Korea. The least that can be accomplished is to avoid the costly and time consuming mistakes that Taiwan made before arriving at its present workable solution.

Productivity Centers - organizations with this or very similar titles are operating in both Taiwan and Japan. Their functions are, in general, narrower than those most recently conceived by KPC and USOM/K for Korea. In the long run the most important consideration is that all the necessary services are available for frequent use by private industry.

In Taiwan, while the CIECD\* provides information regarding both local and foreign credit sources and terms, the China Productivity and Trade Center (CPTC) purports to provide engineering, economic, marketing and managerial aid, but on closer inspection, does this mostly by reference to other organizations e.g. the China Quality Control Society, a few up and coming industrial consulting firms; government inspection testing and engineering facilities; private foreign agencies like (GESCO)\*\* banks and other credit sources; technical and trade schools, colleges and universities, etc.

\* Council for International Economic Cooperation and Development

\*\* General Superintendence Corp

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CPTC also conducts or helps to conduct lectures, seminars, professional meetings, in-and-out-of-plant training programs, in Taiwan and abroad. But these activities also are promoted through other organizations under the general aegis of the CIECD. CPTC has a very limited full time line staff, e.g. five full time engineers, and its principal source of income, other than U S AID (U S \$300,000), are fees from the industrial products display center in Taipei (U S \$100,000).

While both CPTC and the coordinating (CPTC says, "not controlling") agency CIECD provide some kind of export assistance, Taiwan has nothing as specific in this area as KOTRA and many comments were heard to the effect that they wish they had. Obviously KOTRA needs more budget and more experience, but the concept and approach appears to be so sound that it provoked compliments wherever the Team was asked to explain it.

Possibly the most useful of CPTC's services is the technical information exchange service, e.g. books and pamphlets (over 250 types), buyers guide (4 editions), 5500 books & magazine, 13,000 volumes of library books, trade bulletins, magazines, films, safety posters, etc.

One of the most remarkable of these literature services is that of the Japanese Standards Assn whose publishing house in Tokyo looks like McGraw-Hill in New York. Original publications, translations, multilingual references and bibliographies, litho copies, etc. e.g. handbook selling for \$18 in the U S is available in a complete litho edition for \$5. Some idea of the coverage may be had from such items as an illustrated 20 page brochure on "sampling and testing procedures for tinned steel sheet."

The Japanese Productivity Center (JPC) works directly with the Asia Productivity Organization (APO) in the same Tokyo main offices. Scanning the list of APO services available (App. VI), one wonders if the Korean Productivity Center has taken full advantage of its membership in APO or, relevantly, why APO is so little known in Korea. In any event, the Team was told that APO funds are available, beyond present demands, for information and personnel exchanges with Japan, Taiwan and Hong Kong, particularly to bring some of the excellent seminar programs held in Tokyo to Seoul, Pusan, Taegu or wherever there is a need and an intelligent group to recognize it.

Centralization of export controls - this problem has been treated briefly on P. 9, par. 5 of the report and the split authority in Korea as among MCI, MOAF, MOF and Ministry of Health and Social Welfare compared with the complete final control of "certificates of passed inspection" vested in the Ministry of Economic Affairs in Taiwan.

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In some aspects, a more practicable, but possibly premature, solution for Korea would be the Japanese central control system which is in an entirely separate Ministry of International Trade and Industry (MITI) Out of \$4.9 billion (U S ) total exports in 1964, \$484 million were inspected for export, 60% by sampling, 40% item by item. Private agencies, formerly industry co-ops and assns., (p.4 par 1, of this report) employ less than 5000 staff (Korea employs over 1000 in agricultural products alone, altho this is for both export and local markets), for 1) quality, 2) materials inspection, 3) design and process inspection, and 4) packing inspection Over 350 "offices" of these officially designated agencies make financial and activity reports to MITI which seems to operate in a most unobtrusive way altho penalties for cheating, misrepresentation or neglect are swift, severe and final.

MITI inspectors salaries average U S. \$100 whereas in Taiwan they get U.S \$30. Organization of the present system began in 1952 and was operating substantially as it is now by 1958.

Maybe the most important feature of the entire system is MITI's policy to make each agency entirely responsible for tailoring their inspection standards to international markets, wherever they may be. This reverts to the concept (pp. 8 - 9 of the report) of low grade vs. below grade marking. As long as there are no claims or complaints, MITI gives the agency a free hand regardless of JIS, ASTM or any other set of standards.

Standards of Sanitation - inspection standards for canned, frozen, dried or otherwise preserved products and live fish and animals are a subject of frequent discussion but less frequent action in Korea. It is hard to exaggerate the value of this in world markets. Many small food processing operations, including canneries, are hopelessly befouled. The effect of cholera and encephalitis epidemics, the prevalence of parasitic worms, the pollution of the Yellow Sea shelf and threat of liver flukes in shell fish, etc. are well known in Hong Kong, Taiwan and Japan. A barge full of hogs from Korea was burned in the ways by Taiwan officials during the 1964 cholera epidemic in Korea.

It is reported that a detailed code of hygiene \* is currently being adapted for Korea fisheries, to be implemented by law, but it is not yet apparent how the necessary inspection system will be set up. Any action is long overdue

\* published as of 12 Aug. 1965.

### Appendix III

#### Reaction of Small and Medium Co. Ops.

As you know, prior to April 12, 1965, ROKG regulations for obligatory inspection for export products covered a limited number of agricultural and fishery products. The extension to 12 or 13 manufactured items - knitwear, radios, batteries, light bulbs, etc. - on 12 April has already created several new problems and aggravated some old ones. Also, the present plan is to add another 35 items by the end of this month.\*

Kim's section at MCI has notified plants involved through local daily newspaper announcements and by sending inspectors to all plants requesting help either from the related co-ops e.g. Communications Industry Co-op for radio inspection; either the old, established Spinners and Weavers Assn. or the new Inspection Section of the Knitting Industry Co-op for textile inspection, etc.

Most of the inspection problems are being referred to the new testing and inspection sections of the small and medium industry Co-ops. Most of these Co-ops date back to 1961, or earlier, and over recent years their political activities including S/A and other procurement were a major factor in getting and keeping members.

Now, the floating exchange and liberalized export - import rules have debilitated the political advantage to the point that they look on the new (summer 1964) push toward exports and their inspection by the Co-ops as the best current source of keeping membership (who doesn't want to export?) and budgets alive (inspection fees)

The influence of these small and medium industry co-ops came as a surprise to me.

1. The big industry companies are already complaining about submitting to the small and inexperienced Co-ops (not all are such, but this is generally true) for so important a service as one that leads to approval for export.
2. Most of the Co-ops have not been in a position to inspect the kind of products that might qualify for the export list - rubber and plastic products, metal and electrical products, machinery of any kind, ceramics, etc. and it is not likely, in spite of some test equipment purchases thru MCI, that they are now ready to offer such services, especially when the largely overlooked difficulties of competent staff and practical extension of services into the provinces is considered.

\* July 1965

- 3 Worse yet, most of the Co-ops have no plan for disseminating technical information, including the standards (and relevant specifications) with which inspectors must work.

To go back to a real problem, in Taegu we are, for the first time, proposing 1) to equip a laboratory, 2) to test Taegu industrial products according to export standards ( and their laboriously detailed specifications), 3) to get to know, thru these tests, how and where to help Taegu products attain these standards, 4) so that they can pass export inspection according to these standards. Now, the co-op inspection plan starts at the last step (4)'

In spite of this nightmare of complications, the ROK have a point. They propose to defer the tough inspection causes until our return from the tour to see how successful inspection systems are organized, run and paid for, e.g. Gold Star Radio will be permitted to make their own inspections until further notice, etc.

I pointed out that the leakage of substandard products over a list of some 47 products could create havoc while we were getting "educated", e.g. a manufacturer could no longer be held responsible for refunds on defective exported products if ROKG, thru a designated co-op, had certified his product for export--and then who is responsible?

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APPENDIX IV

PUSAN INDUSTRIAL AREA - PRELIMINARY REPORT

Introduction

The differences in the Pusan and the Kyongbuk (Taegu) industrial areas are soon evident to the visitor. Pusan City is, of course, much larger (1.4 million) than Taegu (716,000)\*, its industry patterns more complex and the area approach more difficult to define and implement. Much of this is undoubtedly due to the fact that Pusan is already the number one port city and, potentially, the best deep water, all season port in Korea.

The visual industrial growth of Pusan is one of the more dramatic events in Korea in the past few years. As late as 1962 the Tong Nae area of North Pusan City was mostly paddy or swamp. Today, high factory chimneys rise from over twenty new completed plants and another ten to fifteen are still building.

There are many more large plants (200 or more employees) in Pusan than in Taegu, some of which depend almost entirely on export, e.g. agar agar, radios, plywood, some rubber products, frozen fish, etc. A number of the small to medium size plants are beginning to export such items as malleable iron castings, locks, pencils, garments - especially to South East Asia. Two of the largest plants in Korea, the Dongkook Steel Co. and the Korea Shipbuilding Co. are also located in Pusan.

Pusan City, through its dynamic young mayor, Mr. Kim Sun Ock, already has realistic plans for its industrial future. The spokesman for these plans, Mr. Choe, Il, has a position in the city government similar to that held by the Minister of Ministry of Commerce and Industry (MCI) in the National Government. Through him, we met with a very vocal group of local industrialists on June 24, from 7 - 10 p m. and this plus some 20 plant tours from 21 to 25 June, also arranged by Mr. Choe, and additional luncheon and dinner meetings with plant personnel, provided an industrial picture that, while needing clarification in further discussions with key people in manufacturing, is the basis of the present report.

While industry people have little regard for city-province lines, the hard driven agreement at Taegu among city, province, the local industrial association and the chamber of commerce has not been effected in Pusan and, considering the strain between city and province, may not be possible. Hopefully, it may not be necessary, either, at least in terms of initiating a technical aid to industry program.

\* Taegu industrial area.

Nevertheless, additional visits to provincial offices and industries outside Pusan City will be required for reasonable inclusion of provincial interests in the planning stage.

The city has already purchased and cleared an excellent 20 acre site in the Sunyon area and budgeted funds for a lab. building beginning in early 1966. The small staff, six, of the provincial lab. would probably be willing to leave their badly equipped facility and work for the city. MCI is in favor of any workable plan, but is reluctant to enter the picture since the provincial government and the city report to the Ministry of Home Affairs. MCI may be induced to take some action, however, since the demand for inspection and testing services in the area is conspicuous. Some 30% of the present demand for tests at the National Industrial Research Institute (NIRI) in Seoul comes from Pusan and NIRI's total load is such that it requires three to six months to get test results. Similarly, MCI's export promotion responsibility includes satisfying the need for experts and technical information in this area as quickly as possible.

In view of all these considerations, it would seem advisable to proceed with the plan laid out in this report to begin to 1) provide the experts needed thru the KPC (Seoul), if necessary, before an agreement between city and province is solved, 2) delay ordering of equipment for a local inspection and testing laboratory for broad industrial use until it is apparent that an acceptable site, building and staff are reasonably assured by city or province or both (two such laboratories are out of the question\*) and 3) funnel technical information thru the Pusan Branch KPC.

#### Work Contacts:

The principle city Government contact, Mr. Choe, has been identified in the Introduction. He also handles contacts with Pusan Chamber of Commerce and its Export Promotion Committee, the various small industry Co-ops and the local Korean Productivity Center.

Contacts with the Provincial government may be made thru USOM/RDD resident representative, Mr. Holmes, who is most helpful in many other ways as well.

USIS, Mr. Croghan, is also available for local information.

\* There are other specialized labs already operating in Pusan - see P. 8, #1.

Industrial Technical Areas

A Pusan Related

As was expected, technical assistance needs defined in the Taegu report are repeated in Pusan. Emphasis may shift but some needs are so basic that the plan to use most of the experts now on the job or being recruited for the Taegu area in Pusan remains unchanged except for lack of coverage and time in some cases. The areas involved are

1 Quality control - the need for expert assistance in inspection, testing and engineering to attain good quality and the fundamental methodology to maintain it is obvious everywhere in the Pusan area. More plants are adding small control laboratories of their own, but as fundamentals are mastered, more sophisticated problems are revealed.

The testing and engineering help must be provided through a local laboratory and the various experts listed under other headings to follow this one. Inspection is the responsibility of MCI and NIRI and the present system must be made much broader and deeper to meet the needs. This latter effort is proceeding slowly through existing inspection agencies.

If, however, the present USOM QC expert is able to return to the job after serious illness, the demands on him for assistance in recruiting and training inspectors, organizing a QC society in each of the five or six most important industrial areas and providing in plant consultation on QC problems are so great that the question of coverage and time must be faced. Deeply interested QC groups have already been organized in Seoul - Inchon, Taegu and Pusan and they must be kept alive. They need papers, plant visits, technical information and projects for their meetings and other activities. They are too new to go on alone.

Very recently, an expert in consumer product standards and specifications was recommended for the export promotion program. Just retired after 40 years in this responsibility for Macys in New York, this man should be invaluable to the Korean Trade Promotion Association (KOTRA) in setting products standards through the Korean Standards Association (KSA) that will fit specific foreign markets both in quality and price. He should know inspection practices in many product lines and help KOTRA to work with the related manufacturers, Co-ops, NIRI and the provincial laboratories in advising plant managers on the most marketable quality levels for their products.\*

\* This man has since been better identified with promoting consumer goods standards and specifications.

Most Korean plants do not know what quality levels will bring the best price at the lowest cost in foreign markets because they do not know foreign markets, nor is this information available in Korea except through the early and thin efforts of KOTRA. At the present time KSA modifies foreign standards, NIRI tests and the existing agencies inspect products largely according to the Korean markets or what they guess foreign markets may buy.

So, this kind of assistance would improve KOTRA's, KSA and NIRI's activities directly and substantially. But one word of caution, it is highly improbable that this expert would also be experienced in graphic, or statistical or mathematical quality control or have the plant experience necessary to apply them. He is not, therefore, a replacement for a quality control expert.

2. Plant layout -this industrial engineering problem continues to be the most prevalent and the most accessible to quick and direct relief in the Korean industrial sector. Pusan is no exception and here, again, only coverage and time will condition the use of an expert (now being considered by AID/W) for service in Seoul, Inchon, Taegu and Pusan.

3 Foundry technology - according to a recent but quite incomplete survey of Korean iron and steel foundries\*, there are 31 in Pusan and these include the second and fourth largest in Korea.

The USOM foundry expert, deceased, had taken a substantial role in the Korean Foundrymen's Society, organizing branches in Taegu and Pusan, Scheduling periodic visits to Taegu plants and planning a similar program in Pusan. He also managed to maintain the usual emphasis on the Seoul - Inchon area which still represents the greatest industrial concentration, by far, in Korea.

The present UN foundry expert has already visited Taegu and Pusan and has taken some part in the activities of the Korean Foundrymen's Society. He is officially attached to NIRI and has initiated several equipment fabrication and improvement projects there. It remains to be seen how much time he can devote to foundries outside the Seoul - Inchon area.

4. Machined metal products - this industrial area need is certainly as great in Pusan as in Taegu and several of the captive shops (ship-yards, Pusan Steel, et al.) are far bigger and more complex. An expert has recently been interviewed at AID/W for this job.

\* Many of the gray iron foundries in Korea also have a non-ferrous casting section.

5. Tools and dies - problems in this area are found wherever there is a machine shop. Along with inspection and gaging, it represents the principle defect in Korea's attempts at assembly line, mass production of metal products, both components and accessories. There are machine shops employing more than 100 workers which have no tool and die facility whatever, internal or outside. As a result, "mass production" is really a hogging down process in final assembly and interchangeability is a farce.

AID/W has reported that a qualified expert has been recruited in this area.

6. Metal forming (stamping, drawing and extruding) - these related processes are, or should be, a part of every foundry and machine shop complex to provide the right type of metal processing at the lowest cost commensurate with the end use of the product. Most often they are missing altogether and castings are laboriously machined to fit products ranging from impellers to journal box covers.

7. Metal finishing (plating and anodizing) - these are also correlated processes with the preceding and while frequently used in Korean metal products plants, are rarely properly controlled. There are no candidates for this job on the present horizon, AID/W or USOM/K.

These areas and experts were originally defined for the Taegu area. Recent recruiting at AID/W has identified two experts who might cover five of the areas, viz. 2,3,4,5 and 6. It also remains to be seen how effective these men will be over this broad spectrum of industrial services and it should be recalled that at least one more industrial area, Kwangju, is to receive assistance under the present program.

Otherwise, however, there has been no attempt in this or the other industry area program reports to indicate what industrial problem combinations might be covered by any one individual. Rather, this will shake down in the recruiting process and in the field work.

#### B. Pusan

The following and partial list of area\* products begins to give one some feeling for industrial patterns:

\* Including Masan, Miryang, Ulsan and Pohang.

Rubber Products

1. Automotive tires and tubes
2. Bicycle tires and tubes
3. Rubber footwears
4. Rubberized fabric wears
5. Mechanical rubber goods.

Industrial Chemicals and Chemical Products

1. Sulfuric acid
2. Formalin
3. Soap and Glycerine
4. Paints and pigments
5. Lube oil
6. Plastics
7. Papers
8. Pharmaceuticals

Metal Products

1. Shipbuilding
2. Valves and fittings
3. Padlocks
4. Cans
5. Munitions (ROK Army Arsenal)
6. Wire rope
7. Primary steel products (re-bars, nails, wire, etc.)
8. Textile machinery parts
9. Diesel engines
10. Aluminum kitchenware
11. Steel pipe
12. Galvanized steel sheets
13. Automotive parts
14. Machine tools.

Ceramic Products

1. Dinnerware
2. Sanitaryware
3. Fire brick
4. Tiles

Food Products

1. Sugar
2. Flour
3. Agar-Agar

4. Sodium Glutamate
5. Canned food
6. Frozen, dried, and live fish
7. Fish oil
8. Saccharine
9. Mushroom

Textile Products

1. Synthetic fibers
2. Cotton yarns and fabrics
3. Silk yarns and fabrics
4. Woolen yarns and fabrics
5. Garments
6. Socks
7. Fish net.

Others

1. Plywood
2. Radios, fans, refrigerators, telephone sets and other electric appliances
3. Pencils.

Out of this list, the following represent substantial (relative to national totals) concentrations of the product in the Pusan area\*

Refractories (from SK 34 to common fire brick).

Rubber products (auto and bicycle tires and tubes, rubber footwear).

Canned and frozen foods (fish and shell fish - a variety of choice food fish).

Paints and pigments (exterior and interior building paint, inorganic and organic dyes)

Ship building and other steel fabrication (chemical process equipment, boilers, etc.)

Caustics and acids (caustic soda, hydrochloric & sulfuric acids, alum, plaster of paris).

Electrical and electronic products (radios, fans, motors, clocks, percolators, communications equipment).

Dinner wares, sanitary wares, and pottery.

Garments (polyester, rayon, PVA and other synthetics, cotton, silk)

Agar Agar

Flour and sugar

This list begins to indicate the additional experts that are or would be useful in the Pusan area who are being or could be used in other areas, especially Seoul - Inchon, but at least one more visit to Pusan must be made before job descriptions can be written. At least the following may be mentioned by title: a refractories expert (an inorganic chemist specialized in refractories), two experts in rubber product manufacturing, a) a chemist specialized in rubber processing and b) an engineer specialized in the non-chemical aspects of rubber product manufacturing\*, a chemical engineer specialized in canning and otherwise preserving food products, especially fish, a chemical engineer specialized in paint and pigments, a mechanical engineer specialized in chemical process equipment fabrication, an industrial chemist specialized in caustics and acids, an electrical and electronics instruments expert, a chemical engineer specialized in china ware, pottery, sanitary ware, etc., a garment manufacturing expert, and a mechanical engineer specialized in 5 - 25 hp. gasoline and diesel engines.

There has been no attempt at this time to list the above according to any priority.

Out of this list, at least one U S buyer has an expert in rubber shoes manufacturing in the Pusan area. Commitment and coverage are not known UN has two experts, one attached to NIRT, in electrical and electronic instruments and another at Daehan Chinaware Co in Pusan who is a ceramics expert. Also, a garment industry development expert is being recruited for the Korea Productivity Center (Seoul). In these product areas, additional information is needed to know whether, how and when Pusan's broad problems are being covered.

#### Other Area Facilities

There have been several other facilities at Pusan under discussion in the past year which might assist the program. These are

1. The ROKG Customs Lab. - a well equipped laboratory in Pusan City currently used exclusively for testing imports. The question here has been the actual amount of slack available re both staff and equipment to take on outside assignments. A recent visit revealed, as did two previous trips, that personnel and equipment in several sections are not fully utilized.

\* Especially footwear

2. The ROK Army Ordnance Laboratory - the facility includes wet labs., foundry, machine shop, forge and other pilot plant scale equipment which, along with staff, appear to be quite busy but which might still find some common problems to work on with local industry.

3. ROK Army Arsenal - this shell manufacturing plant has one of the better gage and control labs in Korea. Even plant visits for local industry technical personal would help and some sharing of tools and equipment might be worked out.

4. Marine Laboratory - this is a ROKG facility operated thru the Central Fisheries Inspection Laboratory in Seoul, under the Ministry of Agriculture and Forestry. However, they are short of equipment and understaffed for the work they are assigned to do. They have already requested assistance for the program to test the sea water over the shell fish beds for pollution control under the new sanitation code. They obviously need such help. The potential for export is substantial to say nothing of the public health issue.

The problem here is to establish system for taking and testing samples of water from promising oyster-producing areas for their coliform count, salinity and  $P^H$  during the entire annual cycle, at different depths. Present sampling and testing of the samples is being done in only a few locations and the number of samples is inadequate. A much larger program appears necessary to provide the basis for protecting the purity of the oyster producing areas so that buyers and particularly foreign buyers can be assured of obtaining a pure product when they import fresh frozen oysters

The ROKG new code also contains regulations on other aspects of the handling and processing of oysters. They have selected the southern coast of Kyongsang Namdo as the area where they would like to obtain certification by the United States Public Health Authorities

Oyster producing areas must meet several requirements besides purity. These are accessibility, protection from waves, the proper degree of salinity and temperature to insure the good setting of spat and the fast growth of the oysters. There are a number of good locations in the area where the Koreans wish to concentrate but the actual selection will have to be limited to those which can be properly sampled and supervised.

The most economical set-up would appear to be a system based on the Pusan Station which includes contributions from the various elements interested in the development of the oyster industry, i.e. the government, the growers and the processors.

Wakefield (USOM/K, RDD) stresses the importance of having sufficient sampling stations but feels that not more than one laboratory is needed. This depends on the ability of the Korean private and governmental interests to transport the samples to the one center and the number and quality of technicians.

As a processor, Hwanam Industrial Co , Inc is said to be willing to provide space, water, heat and electricity for sampling stations or for a testing laboratory at Samchonpo which is located about one hundred miles west of Pusan and is a very favorable location for oyster production. Processors at Masan would probably be willing to make the same offer.

An important asset in this work is Kim, Song Jun, a biologist and former USOM/K participant who has been working in the Pusan laboratory for more than four years and on sample testing for the past three years.

Samchonpo has an advantage over Pusan in that it is surrounded by good clean oyster producing areas whereas Pusan is several hours by boat from regions that will be clean enough, even in the foreseeable future, to justify the build-up of an oyster producing industry. On the other hand, Pusan has an established laboratory, processing plants, and technicians living in the area.

### Conclusions

USOM/K - IED-I staff expect to visit the Pusan area again in January 1966. The purpose is to wind up the survey in terms of outlining the present and future effective coverage of foreign experts already in the area, write job descriptions on the additional experts actually needed there and, hopefully, arrive at some practical basis for providing local laboratory services for the most important industrial needs.

In the meantime, with the first two USOM/K experts recruited for the Taegu area now unavailable, every effort must be made by USOM/K to maintain activities already initiated and the recruitment of replacements and the full complement of experts originally planned for both Taegu and Pusan must be pressed as hard as possible. The export promotion program, alone, would justify classifying the need as critical.

IMPORTS COMMODITY PATTERN

1965 Total Value \$8,965 (1,672.80) Million

Rate US\$1 = HK\$5.7

Table 1/1.

			% of total Imports in 1965
Manufactured goods classified chiefly by material			31%
Food			23%
Machinery and transport equipment			13%
Crude materials, inedible, except fuels			10%
Miscellaneous manufactured articles			9%
Chemicals			7%
	<u>1965</u>	<u>1964</u>	<u>% increase</u>
	<u>\$ million</u>	<u>\$ million</u>	<u>or decrease</u>
Manufactured goods classified chiefly by material	2,767 (485.44)	2,678 (469 92)	+ 3%
Textile yarn, fabrics and made-up articles	1,280 (225 57)	1,403 (246 15)	- 9%
Non-metallic mineral manufactures	600 (105.26)	405 ( 71.06)	+48%
Iron and steel	348 ( 61.15)	\$09 ( 54.21)	+15%
Paper, paperboard and manufactures thereof	203 ( 35.62)	204 (35.79)	-0 3%
Manufactures of metals, n.e.s	117 ( 20 52)	118 ( 20 79)	- 1%
Non-ferrous metals	112 ( 19.64)	136 ( 23.85)	-17%
Food	2,042 (421.51)	2,012 (352 99)	+ 1%
Live animals, chiefly for food	443 ( 77 73)	377 ( 66 14)	+17%
Fruits and vegetable	402 ( 70 53)	341 ( 59 83)	+18%
Cereals and cereal preparations	398 ( 69.91)	431 ( 75 52)	- 8%

Table 1/2.

Dairy products and eggs	187 ( 33.80)	185 ( 32.76)	+ 1%
Fish and fish preparations	177 ( 31.04)	181 ( 32.76)	- 2%
Meat and meat preparations	160 ( 28.07)	135 ( 23.67)	+ 19%
Sugar, and sugar preparations and honey	100 (17.54)	187 ( 33.81)	- 46%
Machinery and transport equipment	1,177 (206.49)	1,024 (179.65)	+ 15%
Electric machinery	505 ( 88.60)	409 ( 71.76)	+ 24%
Non-electric machinery	468 ( 88.21)	424 ( 74.39)	+ 10%
Transport equipment	203 ( 35.62)	191 ( 33.51)	+ 7%
Crude materials, inedible, except fuels	924 (162.10)	907 (159.13)	+ 2%
Textile fibres	563 ( 98.78)	564 ( 98.95)	-0.2%
Animal and vegetable crude materials, inedible	182 ( 32.93)	146 ( 25.61)	+25%
Wood, lumber and cork	65 ( 11.41)	83 ( 15.57)	- 22%
Metalliferous ores and metal scrap	36 ( 6.31)	22 ( 3.86)	+ 62%
Miscellaneous manufactured articles	796 (149.65)	713 (125.09)	+ 12%
Scientific and controlling instruments, Photographic and optical goods, watches and clocks	250 ( 43.86)	221 ( 38.78)	+ 13%

Table 1/3.

Miscellaneous manufactured articles, n e.s.	221 ( 38.78)	218 ( 38.34)	+ 1%
Clothing	218 ( 38.34)	180 ( 32.58)	+ 21%
Footwear	43 ( 7.55)	41 ( 7.20)	+ 5%
Chemicals	669 (117.37)	670 (117.54)	-0.1%
Plastic materials, regenerated cellulose and artificial resins	221 ( 38.78)	260 ( 45.62)	- 15%
Medicinal and pharmaceutical products	143 ( 25.19)	106 ( 18.59)	+ 35%
Chemical elements and compounds	103 ( 18.07)	104 ( 18.24)	- 1%
Dyeing, tanning and colouring materials	74 ( 12.98)	81 ( 15.20)	- 8%
Essential oil and perfume materials.	72 ( 12.63)	66 ( 11.58)	+ 8%

IMPORTS: PRINCIPAL SOURCES

1965 Total Value \$8,965 (US\$1,672 80) Million

Table 2/1

By country	% of total imports in 1965	By British Commonwealth and Continent		% of total imports in 1965
		1965 \$ Million	1964 \$ Million	
China	26%	British Commonwealth	21%	
Japan	17%	Asia	56%	
U. S A	11%	Western Europe (Including United Kingdom)	22%	
United Kingdom	11%	North America	12%	
Federal Republic of Germany	3%			
<u>China</u>		2,322 (407 37)	1,970 (345 62)	+ 18%
Textile yarn, fabrics and made-up articles		420 ( 73.69)	402 ( 70.53)	+ 4%
Live animals, chiefly for food		392 ( 68 77)	308 ( 54 13)	+ 28%
Fruits and vegetables		205 ( 35 97)	159 ( 37.90)	+ 29%
Clothing		139 ( 24 38)	87 ( 16.27)	+ 61%
Non-metallic mineral manufactures		130 ( 22 80)	94 ( 16.49)	+ 39%
Fish and fish preparations		116 ( 20.34)	107 ( 18 77)	+ 9%
Cereals and cereal preparations		108 ( 19.04)	118 ( 20.79)	- 8%
Meat and meat preparations		107 ( 18 77)	80 ( 15 03)	+ 34%
Dairy products and eggs		99 ( 17 37)	94 ( 16.49)	+ 5%
<u>Japan</u>		1,551 (272.12)	1,549 (264 74)	+0 1%
Textile yarn, fabrics and made-up articles		472 ( 82.81)	541 ( 94.92)	- 13%
Iron and steel		165 ( 28 95)	153 ( 26 84)	+ 8%

Table 2/2

Electric machinery	157 ( 27.52)	155 ( 27 19)	+ 1%
Non-electric machinery	102 ( 17.89)	91 ( 15.97)	+ 12%
Non-metallic mineral manufactures	67 ( 11.76)	73 ( 12.81)	- 9%
Plastic materials, regenerated cellulose and artificial resins	65 ( 11.41)	46 ( 71.23)	+ 42%
Paper, paperboard and manufactures thereof	61 (10.71)	58 ( 10.27)	+ 7%
<u>U S.A</u>	994 (174 39)	983 (173 46)	+ 1%
Textile fibres	115 ( 20.17)	109 ( 19.12)	+ 5%
Tobacco and tobacco manufactures	92 ( 16 14)	85 ( 15 92)	+ 9%
Electric machinery	88 ( 16.54)	36 ( 6.31)	+143%
Non-electric machinery	86 ( 16.09)	98 ( 17 29)	- 12%
Fruits and vegetables	73 ( 12.81)	75 ( 13.16)	- 3%
Medicinal and pharmaceutical products	66 ( 11 58)	35 ( 6 14)	+ 88%
Non-metallic mineral manufactures	66 ( 11.58)	49 ( 8.60)	+ 33%
<u>United Kingdom</u>	962 (168.77)	838 (157.11)	+ 15%
Electric machinery	186 ( 33.63)	153 ( 26 84)	+ 22%

Table 2/3

Non-electric machinery	139 ( 24.38)	82 ( 15.39)	+69%
Textile yarn, fabrics and made-up articles	107 ( 18 76)	115 ( 20.17)	-8%
Transport equipment	97 ( 17.02)	90 ( 15.79)	+ 8%
<u>Federal Republic of Germany</u>	276 ( 48.42)	247 ( 43 34)	+ 12%
Non-electric machinery	51 ( 8 95)	48 ( 8 52)	+ 6%
Transport equipment	25 ( 4 39)	91 ( 3 33)	+ 32%
Dyeing, tanning and clothing materials	23 ( 4.04)	17 ( 2 99)	+ 31%
Electric machinery	23 ( 4.04)	22 ( 3 86)	+ 5%

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DOMESTIC EXPORTS COMMODITY PATTERN

1965 Total Value \$5,027 (US\$913 51) Million

Table 3/1

	% of all exports in 1965		
	1965 \$ million	1964 \$ million	% increase or decrease
Clothing			35%
Miscellaneous Manufactured article n.e.s.			20%
Textile Yarn, fabrics and made-up articles			17%
Electric Machinery			6%
Manufactures of metals, n e.s.			3%
Footwear			3%
Clothing	1,773 (311.06)	1,620 (284.21)	+ 9%
Jackets, jumpers, sweater, cardigans and pullovers, knit or made of knitted fabrics	468 ( 82.21)	337 ( 59.12)	+ 39%
Shirts, other than knitted	264 ( 46.32)	247 ( 43.34)	+ 7%
Slacks, shorts, jeans, trousers, overalls and pinafores, other than knitted	225 ( 39.48)	209 ( 36.67)	+ 8%
Underwear and nightwear, other than knitted	99 ( 17.37)	82 ( 15.39)	+ 21%
Gloves and mittens of all materials	93 ( 16.32)	126 ( 32.10)	- 26%
Blouses and jumpers, other than knitted, not embroidered, women's wear	76 ( 13.33)	62 ( 10.88)	± 23%
Shirts, knit or made of knitted fabrics	75 ( 13.16)	64 ( 11.23)	+ 18%
Children's outer garments, other than knitted	69 ( 12.11)	94 ( 16.49)	- 27%
Miscellaneous manufactured articles, n e.s.	1,024 (179.65)	865 (161.76)	+ 18%

Table 3/2

Plastic toys and dolls	321 ( 56.32)	243 ( 42.63)	+ 32%
Artificial flowers, foliage or fruit	266 ( 46.67)	271 ( 47.54)	- 2%
Plastic coated rattan articles (not furniture)	78 ( 13.78)	35 ( 6.14)	+123%
Wigs, false beards, hair pads, etc.	72 ( 12.63)	9 ( 1.58)	+741%
Textile yarn, fabric and made-up articles	834 (156.31)	707 (123.04)	+ 18%
Cotton grey sheeting	113 ( 19.82)	93 ( 16.31)	+ 22%
Cotton yarn	95 ( 16.67)	87 ( 16.28)	+ 9%
Cotton towels, not dish towels, not embroidered	52 ( 9.12)	41 ( 7.20)	+ 25%
Cotton grey drills	51 ( 8.95)	72 ( 12.63)	- 29%
Cotton poplin and broadcloth, other than grey	44 ( 7.72)	36 ( 6.31)	+ 22%
Cotton grey twill and sateen	43 ( 7.55)	34 ( 5.96)	+ 27%
Cotton shirting, other than grey	41 ( 7.20)	25 ( 4.39)	+ 64%
Electric machinery	293 ( 51.41)	186 ( 33.63)	+ 57%
Transistor radio	128 ( 22.55)	95 ( 16.67)	+ 43%
Manufactures of metals, n.e.s.	157 ( 27.55)	146 ( 25.61)	+ 8%
Household utensils of iron and steel, of enamelled	43 ( 12.28)	48 ( 8.52)	- 10%

Table 3/3

Footwear	153 ( 26 84)	175 ( 30.70)	- 13%
Footwear of textile materials with rubber soles	66 ( 11.58)	62 (10. 88)	+ 7%
Plastic footwear	34 ( 5.96)	48 ( 8.52)	- 30%
Others			
Cigarettes	62 ( 10.88)	54 ( 9.47)	+ 14%
Electric torches	51 ( 8.95)	48 ( 8.52)	+ 7%
Iron and steel bars and rounds	38 ( 6 76)	29 ( 5.09)	+ 29%
Prawns and shrimps, fresh or frozen	32 ( 5 61)	24 ( 4.21)	+ 37%

DOMESTIC EXPORTS: PRINCIPAL MARKET

1965 Total Value \$5,027 (US\$913.51) Million

Table 4/1

By country	% of all exports in 1965	By British Commonwealth			% of all exports in 1965
U.S A.	34%	British Commonwealth			35%
United Kingdom	17%	North America			37%
Federal Republic of Germany	7%	Western Europe (including United Kingdom)			33%
Singapore	3%	Asia			14%
Canada	3%	Africa			6%
Australia	3%				
Japan	3%				
Thailand	2%				
Netherlands	2%				

	1965 \$ million	1964 \$ million	% increase or decrease
U.S.A.	1,719 (301.58)	1,227 (215.27)	+ 40%
Clothing	624 (103.47)	432 ( 76.79)	+ 44%
Miscellaneous manufactured articles, n.e.s.	599 (105.09)	479 ( 85.04)	+ 25%
Electric machinery	181 ( 32 76)	73 ( 12.81)	+149%
Textile yarn, fabrics and made-up articles	138 ( 24.30)	111 ( 19 47)	+ 24%
United Kingdom	861 (161.06)	968 (169.92)	- 11%
Clothing	333 ( 58 42)	447 ( 78 48)	- 25%
Textile yarn, fabrics and made-up articles	246 ( 43 16)	203 ( 35 62)	+ 21%
Miscellaneous manufactured articles, n.e.s	118 ( 20 79)	124 ( 21.75)	- 5%
Footwear	60 ( 10 53)	86 ( 16.09)	- 30%

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Table 4/2

Electric machinery	42 ( 7 37)	50 ( 8.77)	- 16%
Federal Republic of Germany	371 ( 65.09)	294 ( 51.58)	+ 26%
Clothing	293 ( 51.41)	241 ( 42 29)	+ 21%
Miscellaneous manufactured articles, n e.s	20 ( 3 51)	12 ( 2 11)	+ 68%
Textile yarn, fabrics and made-up articles	15 ( 2 65)	14 ( 2 46)	+ 7%
Sanitary, plumbing, heating and lighting fixture and fittings	11 ( 1.93)	6 ( 1.05)	+ 95%
Footwear	11 ( 1 93)	9 ( 1 58)	+ 24%
Singapore	143 ( 25 09)	152 ( 18 77)	- 6%
Textile yarn, fabrics and made-up articles	33 ( 5.79)	41 ( 7.20)	- 18%
Miscellaneous manufactured articles, n.e.s	32 ( 5.61)	29 ( 5 09)	+ 10%
Clothing	27 ( 4 74)	28 ( 5 01)	- 4%
Manufactures of metals, n e.s.	9 ( 1 58)	8 ( 1.50)	+ 11%
Canada	135 ( 23 68)	116 ( 20.34)	+ 17%
Clothing	49 ( 8.60)	43 ( 7.55)	+ 15%
Miscellaneous manufactured articles, n.e s.	39 ( 6.84)	33 ( 5 79)	+ 17%
Textile yarn, fabrics and made-up articles	16 ( 2 81)	16 ( 2 81)	- 3%

Table 4/3

Australia	134 (23 50)	113 ( 19.82)	+ 19%
Textile yarn, fabrics and made-up articles	59 ( 10.35)	50 ( 8.77)	+ 19%
Miscellaneous manufactured articles, n e s.	32 ( 5.61)	26 ( 4.56)	+ 24%
Clothing	18 ( 19.04)	14 ( 2 46)	+ 28%
Japan	133 ( 23.33)	118 ( 20.79)	+ 12%
Metalliferous ores and metal scrap	40 ( 7.02)	48 ( 8.52)	- 17%
Fish and fish preparations	27 ( 4.73)	20 ( 3 51)	+ 33%
Non-metallic mineral manufacture	16 ( 2.81)	15 ( 2 63)	+ 10%
Miscellaneous manufactured articles, n.e.s	15 ( 2.63)	12 ( 2.11)	+ 28%
Thailand	99 ( 17.37)	91 ( 15.97)	+ 8%
Iron and steel	31 ( 5 44)	24 ( 4.21)	+ 30%
Textile yarn, fabrics and made-up articles	27 ( 3 72)	25 ( 4.39)	+ 6%
Netherland	86 ( 16.09)	57 ( 10.00)	+ 51%
Clothing	47 ( 8.24)	31 ( 5.43)	+ 55%

RE-EXPORTS COMMODITY PATTERN

1965 Total Value \$1,503 (US\$263 69) Million

Table 5/1

	% of all re-exports in 1965		
	1965 \$ million	1964 \$ million	% increase or decrease
Manufactured goods classified chiefly by material			36%
Food			19%
Chemicals			16%
Crude materials, inedible, except fuels			10%
Miscellaneous manufactured articles			10%
Machinery and transport equipment			5%
Manufactured goods classified chiefly by material	544 ( 95.44)	445 ( 78.08)	+ 22%
Non-metallic mineral manufactures	238 ( 41.85)	135 ( 23.68)	+ 76%
Textile yarn, fabrics and made-up articles	220 ( 38.60)	204 ( 35.79)	+ 8%
Non-ferrous metals	31 ( 5.44)	41 ( 8.20)	- 24%
Iron and steel	16 ( 2.81)	14 ( 2.46)	+ 18%
Manufactures of metals n.e.s.	16 ( 58 87)	20 ( 56 14)	- 21%
Fruits and vegetables	87 ( 16.27)	56 ( 9.82)	+ 55%
Coffee, tea, cocoa, spices and manufactures thereof	75 ( 13 16)	66 ( 11.58)	+ 13%
Cereals and cereal preparations	33 ( 5 79)	52 ( 9.12)	- 36%
Fish and fish preparations	29 ( 5 09)	33 ( 5.79)	+ 12%
Sugar, sugar preparations and honey	26 ( 4.56)	79 ( 13 86)	- 67%

Table 5/2

Chemicals	236 ( 41 40)	175 ( 30 70)	+ 35% 3
Medicinal and pharmaceutical products	113 ( 19.82)	71 ( 12.46)	+ 59%
Dyeing, tanning and colouring materials	34 ( 5 96)	31 ( 5 44)	+ 10%
Explosives and pyrotechnic products	24 ( 4 21)	16 ( 2.81 )	+ 49%
Plastic materials, regenerated cellulose and artificial resins	23 ( 4 04)	20 ( 5 44)	+ 11%
Crude materials, inedible, except fuels	156 ( 27 36)	160 ( 28.07)	- 3%
Animal and vegetable crude materials, inedible	84 ( 15.74)	80 ( 15.04)	+ 5%
Oilseeds, oil nuts and oil kernels	25 ( 4.39)	15 ( 2 63)	+ 16%
Crude rubber, including synthetic and reclaimed	10 ( 2.28)	27 ( 3.33)	- 63%
Textile fibres	13 ( 2 28)	19 ( 3 33)	- 30%
Miscellaneous manufactured articles	147 ( 25 79)	124 ( 21.76)	+ 18%
Scientific and controlling instruments, photographic and optical goods, watches and clocks	63 ( 11.16)	50 ( 8.77)	+ 26%
Miscellaneous manufactured articles, n e.s.	52 ( 9 12)	49 ( 8 6)	+ 6%
Clothing	28 ( 5 01)	22 ( 2.86)	+ 30%
Machinery and transport equipment	72 ( 12 63)	72 ( 12 63)	-0 6%
Non-electric machinery	35 ( 6.14)	32 ( 5 61)	+ 9%

Table 5/3

Transport equipment	19 ( 3 33)	17 ( 2 98)	+ 13%
Electric machinery	18 ( 3.25)	23 ( 4 04)	- 23%

RE-EXPORTS: PRINCIPAL MARKETS

1965 Total Value \$1,503 (US\$263 69) Million

Table 6/1

By country	% of all re-exports in 1965	By British Commonwealth			% of all re-exports in 1965
Japan	17%	British Commonwealth			30%
Singapore	14%	Asia			72%
Indonesia	10%	Western Europe (including United Kingdom)			11%
U S A	6%	North America			7%
Formosa	5%	Australia			4%
Macau	4%				
Malaya	4%				
China	4%				
United Kingdom	3%				
			1965	1964	% increase or decrease
			<u>\$ million</u>	<u>\$ million</u>	
Japan			255	199	
			( 44 74)	( 34 91)	+ 28%
Non-metallic mineral manufactures			59	41	+ 43%
			( 10.35)	( 7 20)	
Medicinal and pharmaceutical products			43	19	+129%
			( 7.55)	( 3.33)	
Fruits and vegetables			32	13	+144%
			( 5 61)	( 2.28)	
Miscellaneous manufactured articles, n e.s			23	19	+ 19%
			( 4 04)	( 3 33)	
Singapore			206	188	+ 10%
			( 36.14)	( 34.18)	
Coffee, tea, cocoa, spices and manufactures thereof			38	22	+ 73%
			( 6 76)	( 3 86)	
Fruits and vegetables			32	21	+ 51%
			( 5.61)	( 3 69)	
Animal and vegetable crude materials, inedible			23	22	+ 7%
			( 4.04)	( 3.86)	
Scientific and controlling instruments, photographic and optical goods, watches and clocks			22	14	+ 58%
			( 3 86)	( 2 45)	

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Table 6/2

Indonesia	146 ( 25 61)	207 ( 36 32)	- 30%
Textile yarn, fabrics and made-up articles	84 ( 15 74)	91 ( 15 97)	- 9%
Cereals and cereal preparations	15 ( 2.63)	34 ( 5.96)	- 54%
U S A	86 ( 16.09)	46 ( 8.07)	+ 85%
Non-metallic mineral manufactures	59 ( 10.35)	33 ( 5.79)	+ 80%
Explosives and pyrotechnic products	11 ( 1.93)	7 ( 1.23)	+ 63%
Formosa	69 ( 12 11)	55 ( 9 65)	+ 26%
Dyeing, tanning and colouring materials	10 ( 1.75)	8 ( 1 50)	+ 23%
Animal and vegetable crude materials, inedible	7 ( 1.23)	6 ( 1 05)	+ 30%
Medicinal and pharmaceutical products	6 ( 1 05)	5 ( 0.88)	+ 21%
Plastic materials, regenerated cellulose and resins	6 ( 1 05)	5 ( 0 88)	+ 3%
Macau	65 ( 11 41)	64 ( 11 23)	+ 2%
Petroleum and petroleum products	11 ( 1.93)	9 ( 1.58)	+16%
Textile yarn, fabrics and made-up articles	7 ( 1 23)	4 ( 0.70)	+71%
Malaya	60 ( 10.53)	63 ( 11.06)	- 5%
Fruits and vegetables	6 ( 1 05)	6 ( 1 05)	+ 10%
Cereals and cereal preparations	5 ( 0.88)	4 ( 0 70)	+ 41%
Animal and vegetable crude materials, inedible	5 ( 0 88)	5 ( 0 88)	+ 3%

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Table 6/3

China	54 ( 9.47)	47 ( 8.25)	+ 15%
Textile yarn, fabrics and made-up articles	16 ( 2.81)	8 ( 1.50)	+ 93%
Animal and vegetable crude materials, inedible	8 ( 1.50)	9 ( 1.58)	- 11%
United Kingdom	47 ( 8.25)	55 ( 9.65)	- 15%
Non-metallic mineral manufactures	22 ( 3 86)	8 ( 1 50)	+18%
Non-ferrous metals	11 ( 1 93)	29 ( 5 09)	- 62%

COMMODITY IMPORTED FROM KOREA  
AMONG TOTAL IMPORTS HONGKONG  
DURING 1965

Table 7/1

COMMODITY	CODE NO	IMPORT FROM KOREA SOUTH	TOTAL IMPORT FOR YEAR
Swine	001300	19,180	269,682,917
Pork fresh chilled or frozen	011300	4,099	26,523,094
Animal offals fresh chilled or frozen	011600	1,677	24,616,229
Meat & Offals fresh chilled frozen n.e.s.	011899	123,292	1,504,867
Bacon	012101	62,050	1,052,892
Ham Canned	012104	226,737	4,310,853
Sausages canned	013402	231,988	1,567,290
Sharks fins salted dried or smoked	031201	243,761	12,754,870
Cuttlefish & Squids salt dried smoked	031202	3,120,570	10,904,450
Oyster salted dried or smoked	031305	82,126	2,711,760
Abalone awabi salted dried or smoked	031306	15,195	6,447,916
Crustacea & Molluscs salted dried nes.	031307	23,800	1,672,381
Marine fish prepared nes canned	032012	661,200	3,692,200
Beans dried	054201	2,455,588	31,405,850
Edible Marine Vegetables Dehydrated	055101	15,718	1,397,973
Mushrooms dehydrated or Evaporated	055102	1,003,374	26,216,314
Vegetable dehydrated nes	055109	30,897	13,501,508
Refined sugar	061201	285,000	60,453,792
Asiatic type alcoholic beverages	112408	2,794	22,513,558
Tobacco Unstripped	121001	84,492	44,087,720
Unreelable Cocoons	261200	3,577,456	3,726,351
Raw Cotton	263100	99,780	420,899,306

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Table 7/2

COMMODITY	CODE NO	IMPORT FROM KOREA SOUTH	TOTAL IMPORT FOR YEAR
Building & Dimension Stone not worked	273100	2,151,360	2,395,284
Natural Stontite	276950	5,250	270,885
Human Hair Unworked	291910	6,960	27,559,346
Bristles	291921	47,567	133,874
Bird Feather	291962	5,900	2,066,776
Ginseng	292402	2,279,021	27,585,635
Plants nes for Perfume Pharmacy Etc	292409	2,382,683	55,513,903
Agar Agar	292911	2,735,974	2,915,175
Saccharine	512717	139,030	286,134
Medicated Alcoholic wine not Chinese type	541711	5,900	1,178,105
Medicament s Nes not Chinese type	541799	13,680	66,125,456
Pharmarceuticals Nes	541999	20,852	281,898
Prepared Glues Nes	599599	3,100	2,242,745
Bevine Cattle Leather & Equine Leather	611420	1,150	8,116,495
Footwear Upper Etc	612300	166,528	524,513
Vulcanized Rubber thread & cord	621030	18,500	1,683,133
Unhardened Vulcanized rubber plates etc	621040	240,649	7,090,835
Rubber Tyres truck	629102	10,200	4,805,117
Inner Tubes Truck	629106	2,250	290,975
Articles of Unhardened rubber nes	629989	1,662	1,975,367
Plywood	631210	864,491	28,194,493
Machine made paper in rolls sheets nes	641500	2,200	44,175,834

Table 7/3

COMMODITY	CODE NO.	IMPORT FROM KOREA SOUTH	TOTAL IMPORTS FOR THE YEAR
Fibres boards nes	641609	727	667,727
Wallpaper	641970	3,431	571,648
Woollen yarn	651201	1,843,090	78,977,690
Yarn of Continuous polyamide fibres	651611	318,222	26,065,995
Yarn of continuous polyester fibres	651612	66,000	708,633
Yarn of Continuous acrylic fibres	651613	35,714	8,541,297
Yarn continuous synth fibres retail sale	651630	9,000	1,060,553
Yarn of textiles fibres spun with metal	651910	32,400	617,927
Poplin & Broadcloth cotton grey	652134	111,146	16,212,180
Shirting cotton grey	652136	5,057,690	22,444,613
Canvas & Ducks Cotton grey	652141	68,542	697,684
Drills cotton grey	652144	180,306	14,170,667
Velveteens cotton other than grey	652232	16,929	1,580,714
Poplin & Broadcloth cotton not grey	652247	1,600	106,992,876
Shirting cotton other than grey	652251	154,356	42,866,712
Drills cotton other than grey	652255	208,050	4,105,530
Flannels cotton other than grey	652257	697,501	16,022,246
Fabrics of silk	653101	29,834	61,647,858
Brocades of silk	653102	35,354	305,053
Fabrics of wool woven	653210	729,377	139,723,257
Fabrics continuous polyamide fibres	653511	2,211,242	19,784,586
Fabrics discontinuous polyamide fibres	653521	110,642	9,963,644
Fabrics discontinuous polyester fibres	653522	7,874	49,640,199
Fabrics continuous cellulosic fibres	653611	1,946,607	39,583,526

Table 7/4

COMMODITY	CODE NO	IMPORT FROM KOREA SOUTH	TOTAL IMPORTS FOR THE YEAR
Brocades continuous cellulosic fibres	653612	51,349	1,178,439
Fabrics discontinuous cellulosic fibres	653621	434,265	29,874,260
Brocades discontinuous cellulosic fibres	653622	12,653	424,470
Fabrics regenerated fibres nes	653640	89,498	13,254,824
Netting textiles fibres knitted fabrics	653701	947	522,609
Knitted fabrics not elastic or rubber	653709	1,231,051	47,281,839
Trimmings tapes and bindings of all fibres	654030	1,200	3,471,387
Net fabrics	654051	695,730	4,393,176
Embroidery in the piece in strips motifs	654060	325,802	6,790,294
Braided & Woven Elastics cotton	655501	20,653	614,839
Braided & Woven Elastics nes	655502	76,364	3,618,195
Cordage rope of Manila Hemp over qtr inch	655612	31,310	2,758,806
Cordages of Synthetic fibres	655615	5,098	3,888,741
Cordage ropes nes	655619	14,700	4,465,364
Fishing nets nes	655622	18,600	2,335,190
Special textile fabrics	655930	2,148,196	3,508,395
Cement	661200	9,978	97,870,047
Building stone	661300	1,664,500	6,635,888
Unglazed ceramic setts hearth wall tiles	662440	14,925	9,279,897
Glass beads	665822	918,464	7,451,581
Porcelain or China Household ware	666400	42,500	28,284,279
Semi Precious stones nes unset	667304	387,030	5,640,082
Bars & Rods of iron or steel	673200	788,325	166,286,671
Scissors & Blades	696040	7,100	809,308

Table 7/5

COMMODITY	CODE NO.	IMPORT FROM KOREA SOUTH	TOTAL IMPORT FOR THE YEAR
Soldering & Welding rods etc base metal	698870	2,000	6,272,510
Parts for weaving knitting machines textiles	717139	23,339	10,644,247
Road rollers mechanically propelled	718410	12,000	451,391
Earth moving levelling clearing machinery	718422	340,000	3,171,722
Parts for construction mining machinery	718428	8,000	6,232,859
Machinery for filling bottles cans etc.	719622	1,906	1,602,908
Flexes insulated	723104	228,078	1,278,359
Microphones loudspeakers & Amplifiers	724920	3,686	7,948,070
Womens silk & art silk stocking	841423	1,062	4,718,446
Mens & boys silk & art silk stocking	841424	84,378	5,952,708
Under garments cotton knit mens boys nes	841439	14,367	21,981,092
Under garments textiles material nes knit mens & boys nes.	841441	10,127	257,581
Under garments textile material nes knit wemens and girls nes	841444	275,386	1,063,725
Frames & Mountings for spectacles	861210	48,720	4,055,563
Spectacle etc.	861220	12,800	1,196,557
Drawing measuring calculating instruments	861930	9,280	1,996,283
Cinematographic film developed	863090	23,751	9,007,702
Gramophones record players electrical	891112	444,600	4,396,975
Gramophones records	891201	570	6,090,719
Piano	891411	123,478	2,894,008
String musical instruments nes	891420	6,200	1,433,822
Musical instruments nes	891800	2,290	1,988,046

Table 7/6

COMMODITY	CODE NO	IMPORT FROM KOREA SOUTH	TOTAL IMPORT FOR THE YEAR
Household decorative articles of plastic	893001	77,625	1,947,896
Dolls nes	894229	1,200	1,636,841
Equipment for indoor games nes	894249	178,425	1,922,542
Watch bands metal	897201	3,327	1,287,346
Articles of basketware or wickerwork nes	899229	2,688	2,663,610
Umbrellas	899410	360,390	5,352,768
Buttons plastic	899522	54,810	3,088,871
Wigs false beards etc.	899950	1,663,702	1,843,946
Declarations of values HK\$500 or less	912000	1,617	8,636,330
* * * * *	-	* * * *	*

IMPORTS, EXPORTS, RE-EXPORTS  
Jan. 64 - Dec. 65  
BETWEEN  
KOREA SOUTH AND HONG KONG

TABLE 8

MONTHS		IMPORTS		EXPORTS		RE-EXPORT	
		CURRENT MONTH	YEAR TO DATE	CURRENT MONTH	YEAR TO DATE	CURRENT MONTH	YEAR TO DATE
January	1964	5,491,301	5,491,301	126,948	126,948	1,242,993	1,242,993
February	1964	3,824,182	9,315,483	34,927	161,875	1,989,327	3,232,320
March	1964	2,552,211	11,867,694	75,591	237,466	1,286,762	4,519,082
April	1964	3,119,920	14,987,614	73,063	310,529	1,806,461	6,325,543
May	1964	2,819,028	17,806,642	70,250	380,779	602,451	6,927,994
June	1964	4,221,560	22,028,202	107,536	488,315	2,989,791	9,917,785
July	1964	4,718,779	26,746,981	138,353	626,668	2,658,077	12,575,862
August	1964	5,440,519	32,187,500	16,629	643,297	1,037,905	13,613,767
September	1964	3,943,190	36,130,690	48,487	691,884	1,143,410	14,757,177
October	1964	3,461,683	39,592,373	32,087	723,971	1,081,378	15,838,555
November	1964	3,763,725	43,356,098	45,388	769,359	2,168,170	18,006,725
December	1964	13,617,155	56,973,253	69,449	838,808	3,694,761	21,701,486
January	1965	7,961,415	7,961,415	84,606	84,606	3,146,978	3,146,978
February	1965	3,548,913	11,510,328	66,952	151,558	5,056,312	8,203,290
March	1965	5,427,015	16,937,343	89,363	240,921	3,617,364	11,820,654
April	1965	5,398,671	22,336,014	60,289	301,210	2,185,082	14,005,736
May	1965	4,725,704	27,061,718	30,768	331,978	2,021,520	16,027,256
June	1965	2,697,881	29,759,599	35,394	367,372	2,134,106	18,161,362
July	1965	2,813,782	32,573,381	232,826	600,198	1,879,428	20,040,790
August	1965	1,859,105	34,432,486	53,686	653,884	1,642,561	21,683,351
September	1965	1,680,287	36,121,773	47,620	701,504	3,585,729	25,269,080
October	1965	5,457,922	41,579,695	260,596	962,100	2,500,355	27,769,435
November	1965	3,395,462	44,975,157	67,845	1,029,945	2,582,962	30,352,397
December	1965	5,351,057	50,326,214	17,667	1,047,612	1,513,151	31,865,548

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M E M O R A N D U M

TO Mr. Richard L. Goodrich, IED-I

FROM Niels C Beck, IED-I

SUBJECT: Pusan Industrial Area Export Program - Final Report

March 14, 1966

Introduction

From February 2 - 4, we visited the following plants.

In Masan. Masan Textile Company - acrylic yarns for knitting sweaters.

Baekcho Musical Instruments Company - reed organs, guitars  
and harmonicas.

Jinil Industrial Company - diesel engines

Hung An Industrial Company - diesel engines

Koryo Textile Company - woolen fabrics.

Hankook Clay Company - kaolin refining

In Chinju. Daedong Industrial Company - diesel engines, land tillers, water  
pumps, gasoline engines.

Dong Yang Dyeing and Finishing Company - silk weaving and  
finishing

Korea Kaolin Company - Kaolin refining

Returning to Pusan at 1330, February 4, a final meeting was held with Pusan plant personnel (engineers and technical staff only) under the auspices of Pusan City to define the experts required for the Pusan area. Some 40 plants were represented at this meeting. The response to the program outlined by USOM was very good. In fact, the city has completed a broad survey of its technical needs. The results are tabulated on page 5 of this report.

Following the meeting with plant people, we discussed our mission with the Vice Mayor, Mr. Lee, and the Industrial Bureau Chief, Kyungnam Province, Mr. Yoon. Mr. Lee, branch office representative in Pusan for the Seoul KPC, was present at all of these meetings.

Problems.

1. Testing Laboratory. This is not yet settled. Our present plan is to obtain a statement as to the support including laboratory building, staff, expert counterparts, local transport, office space and expenses, etc., which the city is willing to provide and to put this up through QITA (Quality Improvement and Technical Assistance Working Group) to EPSC (Export Promotion Subcommittee).

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This will make apparent the need for a ROKG decision on where and how to make use of the \$60,000 budgeted by USOM for laboratory equipment in 1966 - 67. One thing is certain, the Pusan City industrial group is ready for action now.

2. Masan, Chinju These cities and their surrounding areas are important industrial centers in the Kyungnam area, yet business is moving out of these cities due to more attractive conditions offered by bigger cities such as Pusan, in spite of excellent natural resources, which when developed, could turn some of the Masan-Chinju sites into good industrial estates. Masan has a naturally protected bay that could be developed into a year-round deep water harbor, good industrial water supply, including some 45,000 tons/day of water from the pipeline which will pump water from the Naktong river to Chinhae, abundant power and good plant sites right on the harbor.

In fact, Masan city, on its own initiative, has drawn up a plan to develop the harbor, which when completed will yield some 150,000 pyung (125 acres) of fill area for industrial sites as well as a deep harbor. In Chinju and outlying areas, the famous Hadong kaolin is mined. The quality of refined kaolin is not broadly suitable for export, so kaolin ores are exported at \$15 per ton (best quality), altho refined kaolin brings \$50 - \$60 per ton. It is estimated that this industry, when developed, could generate over \$1 million/yr by replacing the ore exports with refined products.

A universal problem is lack of financial help (loans from government or commercial banks). The complaint is that the benefits of various government programs to help plants exporting or with export potential, are not available in these areas.

But technically, also, two of the most important industries are in serious trouble.

(a) The kaolin industry should be the subject of a broad survey for reorganization. Many small plants lack integration, i e, some have grinding but no drying facilities, others, kiln drying, but no adequate grinding equipment, etc.

As might be expected, inland transportation costs add to the woes of the many small plants sprawled around both cities and the Masan Port's short facilities and very limited deep water dock area make export shipping in quantity with desired choice of ship bottoms, impossible. This latter, of course, affects all export producers in the area, e g the diesel engine mfgs. (see (b) following)

In fact, the activity is so disorganized that nothing short of a thorough survey by competent experts could conceivably define the true potential of the industry. The latter must be considerable if out of the present confusion, (1) they can export \$325,000 (15,000 MT) in 1965, (2) which quantity could be exported for \$750,000 if properly refined, and (3) more than 50% of the present production is sold locally at less than the 1965 export price for low grade ground kaolin.

(b) Internal combustion engines are produced in quantity by two plants in Masan and one in Chinju. Total production is 3,000 units a year, mostly made up

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of 5 to 75 hp diesels, although units as large as 200 hp are available on order Daedong at Chinju hopes to produce some gasoline engines in the range of 40 to 60 hp Their "best seller" has been the 10 hp semi-mechanized hand guided farm tiller This unit is also provided with several useful power take off devices, something like the old Fordson tractor

The Korean market, however, is very nearly saturated (\*) and they, along with Jinil and Hung An at Masan, are concentrating on diesels in the 10 to 30 hp range for the Vietnam market

With the sole exception of Hankook Machine Company, Ltd in Inchon, where - with Japanese assistance - they have been experimenting with modules of modern in-line diesel engines, Korea-produced prime movers, and most electric motors, are of ancient design and debatable performance Especially in internal combustion engines, the one or two cylinder horizontal and vertical (the latter is considered a modern design by Korean standards) four cycle diesels are made mostly of grey iron and steel castings The crankshaft is forged steel, but anything approaching the modern in-line diesel with light-weight alloys, stampings, extrusions, sintered powder metal parts, shell molding, investment casting, etc , is unknown on an industrial scale of production

And yet, developing nations must begin to produce some of their own prime movers or the drain on foreign exchange reserves grows intolerable as industrialization advances Plant managers admit openly that their need for better planning is critical and insoluble with present staff They simply do not have coherent workable plans for even the short-range future, unless the windfall of the conflict in Vietnam can be considered to be one

Their problems are further complicated by the lack of reliable local suppliers for intermediate inputs like nuts and bolts The hardware type made by Shin Sang at Taegu doesn't meet the engine manufacturer's specifications so they must produce their own, a great distraction at an even greater cost This need is evidently the same as that which MCI has in mind in their very recent drive to develop and improve key industries, i e , "key" in the sense of being essential to the production of complex products without excessive cost to manufacturers of these products

In any event, the Masan-Chinju engine industry also needs a thorough and expert survey of present problems in terms of future targets This suggests something like a project for the new technological institute with substantial help from Battelle's U S staff to find the answers It also indicates the need, for at least several weeks, for experts like the two already working at Taegu, to improve basic manufacturing methods at all three plants Other experts and assistance would be defined by the survey

(c) The perennial "pickle" of the Korean textile industry is also very much in evidence in the Masan-Chinju area Short raw materials, large indebtedness, short working capital and lack of good in-process controls, especially in finishing

(\*) This is Daedong's conclusion - should be checked

In this latter category is Tong Yang Dyeing and Finishing Company at Chinju, which has some \$376,000 of USOM equipment, mostly idle for want of competent operators and maintenance (but see page 6, para 2).

Additional Experts - Pusan.

The expert categories set out on page 5, following, are taken from the survey mentioned on page 1, paragraph 4 of this report. The numbers indicate priorities within a category, not the number of experts needed. The areas covered by the two USOM experts now at Taegu were omitted because plants in the Pusan area have been advised that the Taegu experts were scheduled to go to Pusan next. Some of the specialties listed are obviously too narrow to occupy one man's effort full-time, e.g., one industrial chemist could cover aluminum sulfate, cupric oxide, as well as coverage indicated for such a man in the Report by the Korean Export Inspection Team (USOM/K - IED-I, 1965, i.e., caustics and acids, page 8, app. IV).

The lube oil item is a surprise in view of the present producer's claim (Kookdong in Pusan) to SAE standards across the board and "wax manufacturing" a puzzle unless the topped crude imported for lube oil has a paraffin base.

One plastics expert could cover the areas listed, one specialist could handle both wet and dry batteries, one each for the industrial abrasives and the pesticides. "Manufacture of Coffee" is still a mystery, but otherwise the revised list begins to look like this (not including textile industry experts).

- (\*) 1. Two experts for the rubber industry (see "Report" - ref above page 6 - 7, paragraph 3, last line, for more details)
  2. An expert for food processing (ibid)
  3. One for manufacture of diesel engines (ibid)
  4. One for refractories (ibid)
  5. One for plastics products forming and PVC processing, not previously defined
  6. An expert for applications of industrial abrasives, not previously defined
  7. One for industrial caustics and acids (ibid) as well as cupric oxide and aluminum sulfate
  8. One for electric motor manufacturing, not previously defined
  9. One for chemical process equipment manufacturing (ibid)
  10. One in paints and pigments (ibid)
  11. An expert in wet and dry batteries, not etc
  12. An expert in pesticides manufacturing, not etc
- (\*) These experts are not listed according to priority.

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PUSAN CITY SURVEY FOR PUSAN AREA PROGRAM

<u>Experts</u>	<u>Field of Industry</u>
Electrical experts:	(1) Motor manufacturing (2) Storage battery " (3) Permanent Magnet "
Chemical experts:	(1) Lube oil manufacturing (2) Wax " (3) Aluminum sulfate " (4) Cupric Oxide " (5) Pesticides "
Rubber experts:	(1) Rubber compounding & molding (2) Rubber footwear manufacturing
Ceramics experts:	(1) Refractories (2) Pottery, Chinaware, etc
Plastics experts:	(1) Calendering and injection molding (2) Improvement of aging characteristics of PVC
Abrasives experts.	(1) Manufacture of abrasive cloth (2) Manufacture of grinding wheels
Food experts.	(1) Manufacture of liver oil (2) Manufacture of coffee (3) Dried fish products (4) Fish processing

Obviously, additional details are required for job descriptions, but these are already available from previous studies of the needs and go beyond the scope of this report. Experts #9 and #10 have been repeated from the previous report (ibid) although not listed in the city's own survey, because they represent real basic industrial needs not too well recognized locally. Related plants and applications have been carefully documented.

A garment manufacturing expert, defined in the previous report, is being recruited by AID/W, but it should be pointed out that the needs of the entire textile manufacturing industry in Pusan and throughout Korea are diverse and complex. This oldest, biggest, and in part, farthest advanced of Korea's industries needs most a broad and deep study all the way from beginning materials to final products, markets and market conflicts. This industry, too, has lost its sense of direction, not only with regard to competition from the industrialized nations, but also in the Asian markets.

Finally, an electrical and electronics instrument expert listed in the previous report has been dropped, because (a) a UN expert in this field is now working out of NIRI in Seoul, and (b) ROKG is building and UN is staffing and equipping an instrument center in Yongdungpo (Seoul) for maintenance, repair, modification and some fabrication of a broad range of industrial instruments. Graduates of this training will begin to be available within the next three years.

#### Priorities and Coverage

As indicated, the assignment of priorities has not been attempted in the USOM list of experts. The needs defined are, at this stage, so basic, recruitment so uncertain, and any one individual's coverage so unpredictable that no less than one year's tour of duty is recommended for each expert and recruiting should begin as soon as possible (3-)

Other expert needs may be defined in Kwangju, Taejon, et al, depending on how far, in time and geography, USOM wishes to carry the industry area program, but this present list represents a collection of broadly useful skills not currently covered even in the highly concentrated Seoul-Inchon industrial area. They are not supplied by any of the experts in UN's latest list, but MCI and EPB should coordinate their efforts in terms of other sources of experts, e.g., it has recently been reported that the West German Government has industry representatives interested in certain "project plants" - Daedong at Chinju, Jinli at Masan, and Lee Chun Electric at Inchon.

#### Channels for Assistance

While the laboratory site and responsibility have still not been resolved at Pusan, the Korean Productivity Center in Seoul has reached an agreement with the city to provide experts and technical information through its Pusan Branch. There still must be a formal statement by the city and/or the province regarding the local won contribution for counterparts, local transportation and office expenses.

- (\*) Only two out of an original list of seven experts recruited for Taegu, beginning nearly a year ago, are now in the field, but their coverage may reduce the need from seven to three or four

This problem will be put up to the Quality Control and Technical Improvement Working Group next meeting on March 15, 1966

Addenda p 2, #2. the Korea Steel Co. Ltd (a private company) is currently building a plant at Masan on a 30 acre site, the plant to occupy 190,000 ft<sup>2</sup> to be finished 30 June 1966, another indication of Masan's future progress

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cc D  
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Messrs Pitzer & Luton, Taegu  
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