

(Handwritten mark)

UNIVERSITY OF MINNESOTA
Seoul National University of Korea Cooperative Project
301 Johnston Hall
Minneapolis 14, Minnesota

November 2, 1956

TO: Korean Advisory Committee
FROM: Tracy F. Tyler
SUBJECT: Report of C. H. Bailey and P. W. Manson

At the meeting of the Korean Advisory Committee on October 10, 1956 it was agreed that the report prepared by each staff member serving in Korea would be made available to each member of the Korean Advisory Committee.

The attached report, prepared by C. H. Bailey and P. W. Manson, is the second of several reports which were filed earlier and which will be made available as fast as they can be dittoed in my office.

Tracy F. Tyler

Att.



THE AGRICULTURAL COLLEGE OF SEOUL NATIONAL UNIVERSITY

A report by

C. H. Bailey and P. W. Manson

December 1, 1955

MY
9/26/61

REPORT

OUTLINE

- I Preparatory training
- II Entrance requirements of the Agricultural College
- III Semester schedules
- IV College departments and curricula
- V Relations to Central Agricultural Experiment Station
- VI Requirements for graduation
- VII Fees and tuition paid by students
- VIII Teaching practices and the use of text books
- IX Library facilities
- X Structures available to the Agricultural College
- XI Equipment
- XII Remuneration of faculty
- XIII Staff exchange
- XIV The Veterinary College

THE AGRICULTURAL COLLEGE OF SEOUL NATIONAL UNIVERSITY

A report by C. H. Bailey and P. W. Manson

December 1, 1955

I. PREPARATORY TRAINING

The program of instruction offered by a college or university is perforce contingent in no small measure upon the educational processes to which entering students have been previously subjected in the preparatory or high schools. In Korea at this time there are three major levels of instruction preliminary to entering college. In order of chronological sequence these are: (1) elementary schools through the 6th grade; (2) "Middle Schools" covering 7th to 9th grades inclusive and equivalent to Junior High Schools in America; (3) High Schools covering 10th to 12th grades.

Korean educators advise us that the curriculum of the Korean high schools is fairly fixed or uniform; at least much more so than in the U.S.A. Thus we learn that all high school students are expected to complete courses in not only algebra and plane geometry, but also solid geometry, trigonometry and even elementary calculus, the latter as a 2-credit (2 hours per week) unit for one semester. Also that such students are regularly enrolled in three years of science instruction including a sequence of courses in biology, chemistry and physics.

While it was not possible to visit a sufficient number of such schools to appraise accurately their average facilities, including classroom equipment, those which we did visit were quite impressive and rated high in our estimation. Particularly notable, indeed, were the several practice schools, ranging from elementary to high school levels, operated by the College of Education of Seoul National University in Seoul. While it may be true that not all Korean schools of equivalent levels are as well equipped

at this time with apparatus, charts, pictures and the like, it is significant that the college students majoring in education there and who are thus serving as practice teachers are studying and working in such an environment. Thus they may be expected to endeavor to duplicate certain of these facilities or their equivalent in the schools to which they become attached as regular teachers.

It is also evident that the high school students in the classes that we visited are alert and attentive, devoting their best mental energies to the instruction, and the solution of problems based thereon. One deduces that Korean youth are truly appreciative of the improving educational facilities that are being afforded them. It is noteworthy that many new school buildings are being erected, and older buildings are being improved to provide more adequate and comfortable quarters for students at all levels of age.

II. ENTRANCE REQUIREMENTS OF THE AGRICULTURAL COLLEGE

We are advised that in order to qualify for admission to the freshman class of the Agricultural College of Seoul National University an applicant must not only graduate from high school with acceptable grades, but must pass rigorous written and oral entrance examinations. The grades earned by these entrance examinations, rather than high school grades or percentile ratings, determine the individual applicant's relative ranking in the roster of applicants. In recent years only about one-third of those applying for admission as freshmen have been actually admitted. This implies a high degree of selection, since only superior applicants from the scholastic standpoint thus achieve admission. As a result the subsequent "mortality" of students, i.e., the proportion who actually fail in courses and are dismissed because of low scholarship is very low indeed. Probably more students drop out of college because of financial difficulties than because of scholastic failures. Numerous of the unsuccessful applicants for admission to the College of Seoul National University apply to and are admitted as freshmen to other colleges in Korea.

At the beginning of the spring semester 1955 there were 1,180 undergraduate students enrolled in the Agricultural College at Suwon. These included about 50 women students, who chiefly major in chemistry, biology, and live-stock (poultry). It is anticipated that the majority of the women students will pursue curricula that will qualify them to serve as high school teachers, 4-H Club work and the like. Likewise, many of the male students, after graduation, and the completion of military service, are expected to become high school instructors, professional specialists in government bureaus, college professors, or, in a limited number of instances, industrial technicians.

Adjacent to the Agricultural College classroom building at Suwon, and virtually on the same campus, is a group of classroom buildings used for a teacher training or "normal" school, where 67 men and 29 women are now being educated to become middle school (7-9th grade) teachers in rural areas where some emphasis is placed upon instruction in subjects related to agriculture. We were advised that many superior students are not very desirous of qualifying for such assignments, however. They appear to prefer a professional career in the larger towns and cities, and hence tend to enroll in college courses when permitted to do so, rather than in this or similar teacher training schools.

III. SEMESTER SCHEDULES

The college year of Seoul National University is divided in an entirely different manner than that to which we are accustomed in the United States. Thus, students are graduated from high school late in March of each year. Then they may become applicants for admission to the college. The first college semester begins early in April, and continues until about July 20, when a summer vacation period begins. The first semester reopens in late August and closes near the end of September, when the final examinations are given. The second semester opens early in October, and it should be mentioned

that apparently few if any freshmen are admitted at that time. There is a vacation period during the second semester from December 20th to about February 1st. These vacation periods are designed to include the periods of lowest and hottest temperatures and thus to reduce the discomfort of sitting in inadequately heated or very warm classrooms. Apparently no heat is available in any classroom in the three major structures now occupied by the Agricultural College at Suwon.

IV. COLLEGE DEPARTMENTS AND CURRICULA

The College of Agriculture is now divided into 9 Departments, as follows:

- 1) Agriculture. Prof. Young Lin Chi, Chairman
- 2) Forestry. Prof. Sin Kyu Hyun, Chairman
- 3) Livestock. Prof. Sang Won Yun, Chairman
- 4) Agricultural Engineering. Prof. Chang Koo Lee, Chairman
- 5) Agricultural Chemistry. Prof. Ho Sik Kim, Chairman
- 6) Agricultural Economics. Assoc. Prof. Chun Po Kim, Chairman
- 7) Agricultural Biology. Prof. Chai Sun Ahn, Chairman
- 8) Sericulture. Prof. Mun Hyup Kim, Chairman
- 9) General Subjects.

Of these, (8) Sericulture, is a new department, having been created within the year by splitting it off from the Department of Agriculture. In the instance of (9) General Subjects, it is in reality a service department, teaching such subjects as language, philosophy and the like that all students are required to take, and not having "majors" in the usual sense. There are major curricula in the other eight specific fields, each with a prescribed special curriculum including advanced courses, especially during the third and fourth years, and a limited number of electives.

Mr. Baik Hyun Cho, B.S. Suwon Agricultural College; M.A. Kyushu University (1925) is Dean of the Agricultural College. It is our understanding that a

dean is elected to that rank for a term of 4 years by vote of the faculty. Dean Cho also holds the rank of Professor of Soil Science and gives instruction to students in that specialization.

There are as many curricula as there are departments. All students of the Agricultural College are enrolled in the same courses, some 22 in all, as well as physical training, during the two semesters of the freshman year. During the second year they are all required to register for 7 courses uniformly, as well as physical training, plus about twice that number of courses selected from 37 electives, the selection being primarily in the area of the student's designated major. Beginning with the junior year and extending through the senior year the courses stipulated for a specific curriculum are highly specialized, and rarely do the junior and senior students in one major field sit in the same classes with students in any other major field. The two majors in which there may be exceptions to that rule are agriculture and biology, because of a common interest in genetics and related areas of plant biology. While electives are listed in the several curricula they are perforce few in number, since the required courses include most of the credit hours for which the student has time.

With regard to the adequacy of the curricula, in general they appear to cover the areas of interest and responsibilities of the special specializations in good fashion. As has been repeatedly emphasized, the student programs are decidedly weak in terms of laboratory and shop exercises. It will require both structures and equipment to begin to provide these needs. Doubtless the class schedules will be modified when such facilities make it possible to introduce laboratory and shop courses, thus necessitating the reduction in the number of hours spent in attending lectures. Broadly stated, the evolution of improved instruction might well take the form of having the student perform more experiments, and solve more problems through the use of reference books in the library and printed or mimeographed textbooks or equivalent, rather than having the facts recited to him in formal lectures.

One striking difference between the systems of instruction here, and that in Minnesota, is the sharp separation between the College units, and the fact that students in one college do not attend classes in any other college. In the instance of the Agricultural College at Suwon, the substantial distance (30 miles) from Seoul necessitates offering all the courses on the Suwon campus. But in the instance of colleges on the Seoul campus, as for example Medicine, and Veterinary Medicine, it would seem to be in the interest of both quality and cost of instruction to have students of several colleges in such courses as biology, general bacteriology, physics, and the like. That might apply equally to other colleges who share fundamental interests in basic subjects like language, mathematics, general chemistry, etc.

V. RELATIONS TO CENTRAL AGRICULTURAL EXPERIMENT STATION

The Agricultural Experiment Station operated under the Ministry of Agriculture and Forestry is adjacent to the campus of the Agricultural College at Suwon. It naturally follows that the professional staff of the college is afforded considerable opportunity to observe and follow the researches and experiments conducted by the Experiment Station. In addition, no less than ten members of the Experiment Station staff are now engaged in conducting classes in their field of specialization at the Agricultural College. The lecturers thus engaged, and the types of courses conducted by them are as follows:

- | | |
|--------------------|---|
| 1. Nak Chung Kim | Physiology of the silk worm
Anatomy of the silk worm |
| 2. Kwang Shik Kim | Meteorology |
| 3. Sung Won Kim | Fruits |
| 4. Hyun Ok Choi | Plant Breeding
Crops (Genetics) |
| 5. Sung Kun Hahn | Farm machinery |
| 6. Chung Haing Lee | Crops |
| 7. Jai Hyun Lee | Fertilizers
Fertilizer manufacturing |

- | | |
|-------------------|---|
| 8. Wang Kun Oh | Soil Science |
| 9. Bai Ham Lee | Canning;
Agricultural Chemistry Laboratory |
| 10. Byong Hi Park | Pathology of the silk worm |

It is encouraging to note the degree of cooperation between the College and the Station evidenced by the teaching services rendered by these ten members of the Experiment Station staff. And it is to be hoped that such collaboration will be extended, and, indeed expanded into other areas in order that the results of research may be promptly translated into instruction that is provided advanced students of the various specializations covered by the two institutions. Another aspect of the possible collaboration of the College and Station is suggested under the section entitled "Fees and Remuneration."

The present organization of the central agricultural experiment station is of some interest in this connection. Under Director Byung Seuk Chai, it is divided into eight sections as follows:

1. Agronomy; 2. Horticulture; 3. Sericulture; 4. Livestock; 5. Chemistry;
6. Basic Research (including Entomology, Plant Pathology, Meteorology, etc.);
7. Farm Management, including rural survey and farm mechanics; 8. Training section for extension workers and technicians.

Each major section is divided into subsections dealing with specific areas of interests, or crops, or biological species as the case may be. The soil survey activities are organized under Mr. Oh, and is a sub-section of the Chemistry section. The Experiment Station now has a staff of approximately 100 technical members, plus about half as many laborers. Many of the former reside on the Experiment Station grounds. We were told that the Station possesses about 160 chungbo of total land area (nearly 400 acres) of which about 60 chungbo (= 145 acres) is occupied by cultivated crops. Recently the station was provided with UNKRA funds which were applied to the installation of fairly elaborate concrete-lined hydroponic beds covering a total of 45,000 square feet. The beds are not covered, however.

VI. REQUIREMENTS FOR GRADUATION

The normal course of study leading to the B.S. degree in Agriculture, is four years of two semesters each, and with an average of about 20 credit hours per semester. One cannot be entirely definite in the matter of credit hours required for graduation, since that appears to be fluctuating somewhat from year to year. At this time it is of the order of 160 semester credit hours which qualifies a student for the local equivalent of a Bachelor's degree in Agriculture.

In addition, a limited number of graduates pursue postgraduate studies at Suwon. Three Masters degrees were conferred upon graduate students majoring in Agriculture at the 1955 commencement, and a substantially larger number, viz. 24, are now engaged in graduate study leading to that degree. It is our understanding that there are no actual candidates for doctor's degrees at the moment, but that such degrees can be conferred upon the completion of an adequate program of graduate study.

In general a total of 24 to 30 semester credits in graduate courses must be accumulated by a M.S. candidate, who must also submit an acceptable thesis, and successfully pass a final oral examination to be recommended for such degree.

One detail merits special mention in this connection and that is the apparent practice of periodically, and even frequently changing the course numbers in the instance of specific units or courses of instruction. This seems to lead to some confusion in attempting to interpret transcripts of the study programs of graduates who attended college during a sequence of years. When a course is discontinued, it would seem desirable to drop its course number altogether, at least for a considerable period of time, and to apply new numbers to courses presently added to the available units of instruction. The registrar's office is now in the process of improving its course numbering system.

Also in this same general connection, it seems that the time is at hand when the Registrar's office at the College of Agriculture should be equipped with an Osolid or similar device for making black and white photostatic copies of the transcripts of student records of courses completed. Moreover such transcripts might properly bear a definite statement re degrees conferred, including the date when conferred. That seems to have been omitted in the instance of such records carried by students and faculty who have proceeded to Minnesota for advanced study.

VII. FEES AND TUITION PAID BY STUDENTS

On inquiry at Dean Cho's office we were advised that the direct and indirect fees paid by the average student per semester is as follows:

- 1,500 hwan tuition paid directly to S.N.U.
- 11,500 hwan contributed to PTA* fund
- 1,600 hwan subscription to student newspaper
- 1,200 hwan student association dues
- 4,000 hwan laboratory fees (average)
- 19,800 hwan (or about \$40 U. S. money)

It is estimated that the average cost of food and lodging per semester is of the order of 50,000 hwan or \$100 U.S. money. Thus the cash outlay per student, not including books, clothing, transportation and incidentals is of the order of \$140 per semester or \$280 per college year.

At Suwon free tuition is given to a maximum of 20 students in the Agricultural College on the basis of financial need and scholarship level.

*Such contributions to a PTA fund appear usual at all levels of education from the primary grades up, and from funds thus accumulated payments are ultimately made to professors and teachers.

VIII. TEACHING PRACTICES AND THE USE OF TEXT BOOKS

During the months of September and October 1955, Messrs. Bailey and Manson made occasion to attend approximately fifty classes or units of instruction in the Agricultural College. These included classes in all the specializations, as well as general subjects such as English, German, Law, etc. This was done in order to observe the facilities available to and employed by the faculty, text books used by the students and general teaching practices. In a relatively small proportion of the classes attended, say one-fourth, were actual comprehensive text books employed, and of these only a few were texts printed in English. There were approximately an equal proportion of texts printed in Korean. In numerous cases mimeographed notes were in possession of the students and we understand that in many instances the manuscript of such notes are organized by enterprising students with the collaboration of faculty, then mimeographed and sold to fellow students. In many classes, however, there was no evidence of the availability of either mimeographed texts or summaries, or of complete text books.

Obviously such a lack of text books has a profound effect upon the whole general practice of teaching, even including the number of hours per week spent in the classroom. For when there are no texts generally available to the student it naturally follows that the professor virtually dictates the equivalent of such a text during the "lecture" periods. That this was true in a large percentage of the classes attended was clearly evident. An instructor would slowly dictate a statement, which was apparently recorded in its entirety by the student. In fact, it would commonly be repeated so the student could check back upon the accuracy of his record. In other cases, the instructor, as for example in a course in biology, would draw in chalk on the blackboard the structure of an organism or tissue, which would be painstakingly and slowly copied by the student into his note book. Rarely,

in such instances was the student shown any specimens, or provided with sections of tissues or the like to be viewed under a microscope.

This serves to emphasize the desirability of substantially supplementing the present facilities with visual aid equipment, including particularly film strips and projectors, motion pictures, and large wall charts on cloth or paper, as well as models in full size or miniature depending upon the size and design of the original. Thus the student may be afforded opportunity to study the models or diagrams thus displayed for a longer period of time, and to copy these more accurately and completely in his note book. Also a greater number of such figures could be shown in a given time, as contrasted with the present time-consuming task of drawing them by hand on the board during the course of a lecture.

There has been considerable discussion with the faculty and others concerning the possibility of actually providing individual students with more text books printed in either English or Korean. The element of expense to the student is prominent in such discussions. The faculty appear agreed that they hesitate to insist upon the students purchasing such books, at a cost perhaps, of the equivalent of the present tuition each semester. It also is deemed impractical to translate texts written originally in some foreign language, i.e. English, German, French, etc. into Korean and then printing it for sale to college students. From a business point of view, the volume of sale of such translations would not be adequate to pay for the cost of printing, let alone for the services of the translator. We were shown a few text books published originally in the United States that have been reprinted in English here in Korea, presumably because they could thus be sold at a lower price than by importing directly from America.

IX. LIBRARY FACILITIES

This issue of text books is intimately associated with the library facilities available at the Agricultural College. At this time the College

library is housed in a one-story brick structure adjacent to the main classroom building. Approximately 1,000 square feet of floor space is occupied by the stacks on which all the books are shelved. About twice that amount of space is occupied by entries, office, and a student study room approximately of 30 x 45 ft. The latter provides tables and chairs, and according to our observation is used largely for study not concerned at all with the use of library books.

In the stack room the bulk of the present file of books - probably about 60% - are in the Japanese language, and were acquired during the period of Japanese occupation, i.e. 1910-1945. It follows, perforce, that in many phases of science these books are somewhat obsolete. Also there is not only a disinclination on the part of Koreans to use anything originating in or stemming from Japan, but also the fact that the Japanese language is no longer taught in Korean schools and colleges and hence the student may actually be unable to read it.

There are many good and useful books in English and a few in German, acquired since 1945, in the library collection, but they are not at all adequate. Consequently processes are now in motion to substantially supplement the existing files with many new and up-to-date texts and reference books. Moreover, plans have been drawn that cover a substantial addition to the stack room of the present library building. When this addition is constructed and occupied it will greatly increase the relative efficiency of the present library. Moreover, one may assume that it will indirectly effect some modification in present teaching practices since it will encourage the instructors to give heavier reading assignments in certain units of instruction.

Since numerous books are about to be supplied the Library in question by purchases being made through the University of Minnesota this appeared to be an appropriate time to modernize the indexing of all the books. The librarian, Mr. Shim, and Dean Cho approved the adoption of the Library of

Congress (U.S.A.) method of indexing and accordingly such index cards will be ordered covering all the books now in process of purchasing. Also, arrangements are being made to supply the librarian, Mr. Shim with the requisite forms to be used in ordering similar index cards for all of the non-Japanese books in the present collection. Moreover, it is anticipated that index cards will be provided with or secured for all books acquired in any manner in the future.

We understand that the same general procedure is to be followed in the reorganization of the library of the College of Engineering, and conceivably it will extend through all the library units of Seoul National University, including the large central unit. This appears to be a thoroughly logical procedure, since it will greatly facilitate the exchange of books between library units, as well as to increase the relative efficiency of operations within each unit. The issue of adequate cross-indexing of a volume covering a rather wide range of subject matter, or with numerous authors, comes to mind in this connection, and will be covered more adequately under the Library of Congress plan than has probably been true heretofore.

An effort has been made to observe the manner and level of use of the present library by the students on the Suwon campus, and a score or more of visits have been made to it at periodic intervals during the three months from September through November. Reference has already been made to the provision of a reading or study room adjacent to the library stacks. As a matter of fact the majority of the students studying at the tables there provided appeared to be engaged in other activities than reading books drawn directly from the library files. In terms of the fairly large student population, viz. over 1,100, the use of the library collections, either books or periodicals, appeared to be relatively light. On inquiry, we were informed that the faculty did not commonly announce library reading assignments, nor was there any mechanical provision for "reserve books" which were designated

by the faculty for special and specific consultation in any course. Possibly this type of function of a college library has not proven feasible in terms of either (a) adequacy of the physical plant (b) number of available texts or (c) library personnel. It does, perhaps merit some consideration as new books are being purchased, and as an addition to the library building is projected.

X. STRUCTURES AVAILABLE TO THE AGRICULTURAL COLLEGE

The School of Agriculture and Forestry of the Korean Empire was established as an autonomous unit in 1906 when it was detached from the School of Commerce, Technics and Agriculture, and was moved to Suwon in 1907. In 1918 it was raised to the status of a College. From time to time its program of activities and of instruction was expanded, as for example, in supplementing its veterinary and livestock instruction in 1937 and in agricultural engineering in 1943. Also its physical plant including buildings was supplemented until at the beginning of World War II it was equipped to give instruction to 1,000 students. In consequence of the North Korean invasion many of the principal buildings were completely destroyed. After some rehabilitation of surviving structures there remained available three major semi-detached class-room and office buildings, three small laboratory buildings utilized as chemistry and biology student laboratories, as well as a few shop-laboratory small structures utilized by Forestry, Engineering and Livestock. It is estimated that the present classrooms in the three major units will seat about 700 students when every seat is filled, and, of course, it is not possible to arrange class assignments that will fill every seat. Actually there were 1,180 students enrolled during the first semester of 1955, and the problem of arranging classes thus became complex and difficult.

Moreover, the pressue of class-room space demands is now so acute that the teaching faculty just cannot be provided with offices, or even with

space for desks in rooms shared by several. This doubtless reduces teaching efficiency, both in the matter of permitting the teachers to engage in preparation in a quiet, detached setting, and also almost eliminates instructor-student conferences.

The need for additional structures for classrooms, laboratories and faculty offices is very acute, and considerable thought is now being given to the planning of one or two major buildings. Tentative plans have been sketched which involve a three-story, patio-type general purpose building designed to house the departments of Agriculture, Agricultural Chemistry, Forestry, Animal Husbandry, Sericulture, and Agricultural Engineering. Thus General Subjects, Agricultural Economics, Biology, some Sericultural laboratories, Dean of the College, Registrar, and Business Offices would remain in the present 3-unit building as remodeled. This remodeling as originally proposed would involve not only the erection and shifting of various partitions, but the actual addition of a new third floor on the front unit of the present main college building has been proposed. This addition is still a subject of discussion, and presumably estimates will be made of its cost in comparison with that of adding an equivalent amount of floor space to the proposed new building. It appears that a new roof must be constructed on the old unit in any event, since the original tile roof was completely destroyed during the war period.

Also a new auditorium is needed and should either be erected as a semi-detached unit of the new class room building, or as a completely detached structure. From the purely architectural standpoint, the latter may be preferable. At the moment there is no room or space at the College where a general student assembly can be convened, or where lectures, concerts, student plays or the like can be presented.

The tentative plans for new and remodeled buildings outlined above would increase the available class rooms from the present 22 to a total of 30, and the seating facilities (not including the auditorium) from about 700 to

approximately 1,100. This would vastly improve and simplify the programming of teaching schedules in the interest of both students and faculty, and would actually provide for the first time since the pre-war period the physical facilities requisite to the instruction of 1,000 or more students who are expected to be enrolled henceforward.

Attached to the equipment request for 1956-7 was a proposal that consideration be given to the erection of a sericultural laboratory building or rearing house. The accompanying floor plans show provision for 9 units or compartments for student use, each providing for 4 students, or a total of 36 students in all. In addition, 3 units are included for faculty researches and demonstrations. Not including a heating plant and special humidifying equipment, it is estimated that such a structure will cost about \$125,000. This is a considerable amount, and it is suggested that before such an expenditure is considered, it should be determined whether or not adequate instruction in sericulture can be given without providing each individual student with such elaborate and expensive facilities. Certainly no other department of the College contemplates an expenditure of \$3,500 per student for physical plant designed to serve a single course or unit of instruction.

If it should be agreed that students must engage individually in rearing silk worms, then consideration should be given to the possibility of using facilities of the Agricultural Experiment Station. The sericulture department of the Station now has a fairly large structure especially designed for rearing silk worms. We understand that consideration is being given to the expansion of these facilities, through the erection of supplementary structures plus the acquisition of thermal and hygrometric controls and the like. If this eventuates, is it not possible that advanced students in sericulture might not either (a) observe the detailed operations of this plant by specialists, or (b) actually engage in such operations to a degree sufficient to acquaint them with the essential fundamentals of the processes?

XI. EQUIPMENT

The present inventory of equipment for teaching purposes at the Agricultural College is pitifully inadequate, and in the instance of most departments is practically non-existent. The destruction and theft experienced during the war years practically stripped the laboratories and shops, and, to be sure, there has been virtually no new, up-to-date equipment received for nearly a score of years. Consequently the need for equipment and supplies is singularly acute if anything approaching an adequate teaching job is to be effected here. Members of staffs of the several departments at Suwon have been requested to prepare lists of needs in these particulars, and these preliminary listings have been carefully studied by the appropriate specialists and administrative officers at Minnesota. It is our understanding that orders are now in process of being placed for certain of the items that have been requested and for which funds have been allotted from 1954-56 FOA-ICA appropriations.

The difficulties of assembling and processing reasonable and adequate lists of needed equipment have become abundantly apparent to all concerned. It became necessary to emphasize that the paramount consideration was the provision of equipment destined for actual use by the students, or to be used by instructors in demonstrations before the students. Since the primary requests are made by numerous professors working independently, it inevitably followed that there were duplicate or even multiple requests in many instances where, conceivably, a single unit might suffice if shared by two or more departments. After numerous conferences, agreement was had that in addition to ordering items destined for delivery to individual departments of the College at Suwon, there would be created for the first time an inventory of "Pool Equipment." This is to comprise particularly such items as duplicating machines and mimeographs, cameras, still and motion picture projectors, tape recorder and other like appliances. These are to be stored and loaned

by the Dean of the College of Agriculture or some individual delegated by him. This procedure should be in the interest of economy in thus avoiding undue duplication, as well as efficiency in the skill of operation by more experienced personnel who handle it as part of their special duties. Special emphasis has been laid upon the necessity of providing adequate and safe storage of all equipment upon its arrival in Suwon.

XII. REMUNERATION OF FACULTY

It appears to be generally understood in Korea that the units of government, local or national, as the case may be, are not expected to fully remunerate directly from the treasury the teachers or professors who instruct in the schools and colleges. The nominal salary paid by the government is supplemented by payments from funds collected by the PTA of the unit. Thus, in the instance of an Associate Professor in the Agricultural College, we are informed that the College may provide him with a residence on the campus, pay him 7,700 hwan per month, and provide a rice ration with a value equivalent at current prices to 3,100 hwan per month. This is equal to a total of 10,800 hwan or \$21.80. In addition he receives 24,500 hwan, or \$49 from the PTA or a total of \$86 per month plus lodging. In the instance of a full professor this total may be 10-15% more. For this he renders a teaching service of an average of 10 credit hours per week. Since the \$86 cash income is not sufficient for subsistence of a man with a family, the associate professor must seek other sources of income. In fact, this is anticipated by the college administration, which frankly recognizes that faculty members generally must engage in such practices and hence will probably be on the campus less than half of the time. The method of earning supplementary remuneration varies with the individual, the department to which he is attached, available transportation and other factors. Some professors teach in other colleges; some serve as consultants to industries; others write text books, particularly for use in agricultural high schools, and

the like. We understand that modest-sized garden plots are provided some of the faculty along with a house, on which land he and his family can raise vegetables for the table, and rear poultry and swine to supplement the rice ration and improve the family diet.

It is suggested that an arrangement or program of division of activities might be evolved by the two or more government ministries or bureaus whereby a skilled professional man might divide his time between, say, teaching in the agricultural colleges, and engaging in or supervising research in the agricultural experiment station, or possibly even supervising some control program. Something of this sort appears to be involved in the instance of the 10 members of the experiment station staff to whom reference is made above in the section "Relations to the Agricultural Experiment Station." The actual time now spent in teaching by these 10 men is nominal however, and probably not much greater than the equivalent of two full-time instructors. The substantial extension of such joint employment should contribute to the relative efficiency of both units or institutions. It would contribute to the professor's knowledge of agricultural science if he was actively concerned with current researches. It would broaden the area of knowledge, and bring more ideas to bear upon the experiment station research if the researcher engaged in teaching in a greater area of scientific interest than is covered by his current research projects. Moreover the services of post graduate students might often be directed to or employed in experiment station researches, thus applying more man power and thought to the projects thus involved.

In order to evolve a workable program of this nature, it would doubtless be necessary to create an agricultural advisory council comprised of members of the Ministries involved, and of the professional staffs of the operating units, and perhaps some representatives of the principal national agricultural societies. This council would make recommendations to the Ministries concerning the exact projects and other areas to be included in such joint programs. The

appropriate fiscal officers of the Ministries would also need to develop the budgets, including the division of appropriations, levels of salaries to be paid, and the percentage of time to be expended by the professional staff in specific duties. Thus the departments of the national government and hence the citizens would utilize the full-time services of highly-skilled scientists, with a higher level of economic security to the scientist himself, and a distinctly higher level of professional proficiency in all phases of his technical or scientific assignments.

XIII. STAFF EXCHANGES

Early in the period of the contract President Choi of Seoul National University visited the University of Minnesota, and other educational centers in America, and thus acquired some familiarity with facilities there available for discharging certain of the contract obligations. Presently, Dean Cho of the Agricultural College arrived in St. Paul and remained there and in the U.S. for a period of about four months observing the organization and operation of our agricultural college. During about the period and shortly thereafter a total of 15 members of the Suwon staff, ranging in rank from Dean down to Student Assistant have been at the College of Agriculture, Forestry and Home Economics of the University of Minnesota, two more, Young Lin Chi, and Sang Won Yun are scheduled to go in March 1956, and five more are recommended by SNU for such an assignment presently and are being processed. In this general connection the Agricultural College faculty through Dean Cho have indicated a desire that three junior members of the faculty who are specialists in agricultural engineering, agricultural chemistry, and live stock should be detailed to a protracted study period in Minnesota for as long a time as is permitted under the existing contract, and up to two years if possible.

Consideration is also being given to the detailing of Minnesota Agriculture staff to tours of duty in Korea. Dean Macy was here in 1954 for a time, and Dr. Arthur Schneider has served in Korea as Chief Adviser in Korea,

Seoul National University Cooperative Project for about 14 months. Miss Gertrude Koll has been office secretary since June 1955. Early in September 1955 Clyde H. Bailey, Dean Emeritus of the Institute of Agriculture, and Prof. Philip Manson, Professor of Agricultural Engineering, were sent to Korea for a period of about three months. It chanced that they arrived at about the same time as three specialists delegated to related assignments in the College of Engineering, viz. Professors Lund, Larson, and Graffunder. The observations of Professors Bailey and Manson are recorded in this report. In their conferences with the Agricultural College faculty of Seoul National University it has been agreed that it would be desirable to provide the services of a Minnesota physicist, and a biologist who might arrive in Korea shortly after the bulk of the new equipment arrives that is now being ordered. They could render very useful service in setting up such apparatus, and acquainting the Korean staff with its operation and maintenance. The latter is not the least significant in view of the distance between Korea and the source of new parts and repair material. These two specialists could render other useful services as well, including particularly the progressive re-organization of courses involved to include the use of certain pieces of equipment in class room demonstrations.

Emphasis has been laid by Dean Cho and his staff on their desire to have several other Minnesota Agricultural scientists detailed here for at least three to six months each. The fields to be covered, that have been stressed in this connection include:

1. Forestry
2. Soil science, with particular reference to soil fertility and the application of fertilizers
3. Plant Pathology
4. Plant geneticist - agronomist.

These recommendations have been communicated to the Institute of Agriculture in St. Paul, who can ascertain the availability of appropriate personnel and the period of time in which they can render the most effective service. With the exception of the first specialization, forestry, it would appear desirable to avoid such assignments during the long winter holiday period between December 20 and the end of January.

XIV. THE VETERINARY COLLEGE

Since the College of Veterinary Medicine is an integral unit of the Institute of Agriculture of the University of Minnesota, and moreover, because the diagnosis and control or cure of farm animal diseases is of primary concern to the agriculturalists of any country, it naturally followed that we were interested in the program of instruction in veterinary medicine now followed by Seoul National University. At the present time the College of Veterinary Medicine of Seoul National University is located on the Seoul campus a short distance from the College of Medicine. It is our understanding that no course work is taken in the College of Medicine by students majoring in Veterinary Medicine. It appears to be generally agreed that this is not a very satisfactory location, since there are relatively few domestic animals nearby, and moreover, the animal breeding farm where guinea pigs, rats, hamsters, dogs, and poultry are reared for experimental purposes is several miles distant, and its site is not provided with laboratory buildings or class rooms where dissections, autopsies or animal experiments can be conducted. We understand that few domestic animals are brought onto the Seoul campus for diagnosis or treatment by the students.

Two sites have been proposed for the relocation of the College of Veterinary Medicine. One is on a 40-acre tract several miles distant, and in a less heavily populated area, which tract is now owned by Seoul National University. At this time half or more of it is actually occupied by an Army compound. There are several badly damaged buildings on this site, one of

them of considerable size, and doubtless of good construction before the interior and roof were completely wrecked by artillery fire during the recent invasion by the Communists. The remaining walls appear to be sound and sturdy and Dean Oh of the Veterinary College is of the opinion that they could be used to advantage in the reconstruction of a main building for that college. Also several smaller buildings within the compound might be repaired and adapted to use as barns, laboratories and shops. There was a power plant in the group of structures as well, and it likewise might be made fully functional by making major repairs and additions to the equipment.

The second site that has been proposed is at Suwon, where the Veterinary College was located before it was moved to Seoul in 1947. As a matter of fact, the Veterinary Department was actually a unit of the College of Agriculture prior to that date. If the Veterinary College was re-located at Suwon, it would follow, perforce, that an entirely new set of buildings must be constructed to house it, since there are no structures there now that could be applied to instruction in that field. It would be interesting, and pertinent to this discussion if we could ascertain the comparative levels of cost of rehabilitating the damaged structures in the Army Compound already mentioned, and of constructing new structures at Suwon. If the difference was not too great, and means could be found to erect buildings at Suwon, it would seem that that would be the more desirable location of the two. Close relations between the College of Agriculture, and the College of Veterinary Medicine should be wholesome for both. Eventually some courses might be evolved that would be attended by students of both colleges. At any rate, courses in veterinary science designed for students in agriculture could be instructed by professors in the Veterinary faculty. Also in the Suwon area, there should be access to more domestic animals for observation and study by the Veterinary students, including the stock on the provincial farm at Anyang, a few miles to the north.

At the present time the student population of the Veterinary College in Seoul is reported to be of the order of 350-360, which seems rather large for a country of the size of Korea. The course is of just four years duration above the high school, yet a Doctor of Veterinary Medicine degree is conferred at the end of that relatively short period of professional training. It was mentioned by members of Seoul National University faculty that consideration was being given to the extension of the course of study by a year or two, but no assurances were given that this was in actual, or early, prospect.

We visited the classrooms and laboratories now available to the Veterinary students on the Seoul campus. While we are not professional veterinarians, and hence scarcely competent to pass judgment, it did appear as though the equipment was indeed meager and inadequate. At the time we were there, not a student was engaged in actual laboratory experimentation, or observing a demonstration or operation. No animals were in sight, nor were there facilities for housing, handling, or treating them in a modern fashion. While one cannot pass judgment nor make detailed recommendations on the basis of a few hours of such observations, it does seem justifiable to suggest that if the veterinarians of Korea are to be educated and trained to the level of understanding and technical skills of those of other modern lands, improved facilities and a more protracted and extensive curriculum are essential to that end. This is in the interest of not only the health and productiveness of Korean livestock, and the related economic factors, but also to the health and well-being of the human population who may otherwise be exposed to maladies communicated to them by animals in the community.