

RESEARCH □ Marjori Leynes

Local inventors: we must encourage them

INTERMEDIATE technology combines the modern qualities of foreign technology and the limitations of a semi-industrialized society such as the Philippines. In this connection, one Development Academy of the Philippines (DAP) project aims to identify, describe and develop intermediate/appropriate technology and community innovations. It proposes to study the Philippine invention system primarily focusing on the identification and description of local inventions and indigenous technology, the attendant processes of development and technology transfer, the instrument/vehicle of technology change, and identification of some research and development indicators through consultation and case study investigation.

In relation to this, a research group headed by Dr. Ruben Santos-Cuyugan, sociologist and chancellor of the Philippine Center for Advanced Studies, seeks to identify elements of Filipino innovativeness. Once these elements are known, the government can easily harness the potentials of people possessing such traits.

The two studies complement the search for an intermediate technology and for the Filipino technocrats to introduce it.

Most Filipino inventions, DAP researchers found out, are merely "paper inventions". Of the thousands listed by the Philippine Patent Office, only ten percent have been produced in actual (not model) size; the rest most probably have rotted in the realm of imagination and pigeon holes.

Possibly, some of the inventors are just "patent collectors" as one PPO staffer claims. They content themselves with mere ownership of patents and claims to being inventors, feeling leery of the corresponding monetary rewards. Others may have been delimited by production costs, for even the manufacture and



Jeppneys: Filipinays are ingenious.

marketing of models already require capitalization.

The Filipino inventor, to compound his woes, also has to compete with the multinationals who have the resources to produce and sell equipment in commercial quantity. Hence, to earn money, an inventor is forced to surrender, at modest returns, his patent to a businessman or a multinational corporation. He then remains incognito.

Problem of Originality. A wrench in the machine, so to speak, is that most Filipino inventions are not original. They are mainly variations of already existing products or processes, utilizing either new or a combination of raw materials or changing a particular stage in the manufacturing process. It could also be a new design of an old product. It is however, a totally different story in the advanced countries, where innovations, in the true sense of the word, continually take place in research laboratories which are backed by a company's millions. Heavily-funded inventor-researchers, however, are not recognized individually, and the products, as an off-

shoot of the laissez-faire dictum, do not necessarily accrue to national development. The products must serve multinational interests; the rest is incidental.

As to why the Filipino inventor cannot be original, Dr. Cuyugan and his staff, after analyzing the data gathered from a hundred respondents whose names were taken from the list of patent applicants in the PPO, found out that Filipino inventors are "creatures of circumstance", or they invent what they perceive to be a felt need. The reason is more in kinship to engineering contingencies, and nothing else.

The trial-and-error factor plays a lead role. Most Filipino inventors start tinkering with basic materials to create a substitute for the doubly-expensive Western prototypes. They eventually discover that the scrap metals and iron found in junk shops and other reject materials can be recycled and magically transformed into peso-saving, peso-earning and time-saving devices.

Improvisation is the key, keeping much to the original design and scientific principles employed in the

original. Though simple it may appear, there are few, indeed, who can sit down and invent without any specific problem in mind—an approach frowned upon in modern research.

Simple Solutions. Simple problems, it is said, need simple solutions; and the Philippines is not so technologically advanced as to get details as it were, by means of beyond pragmatic solutions, beyond the scope of common sense. Expertise has its reason, but so does native enterprise.

Filipino inventors are not what scientific movies are wont to depict; they are people from all walks of life, and trained for some other endeavors—lawyers, teachers, clerks, mechanics, engineers, etc. One, in short, doesn't have to be freaky to be "creative," inventive. The average Filipino inventor is usually in his late thirties or early forties, a college graduate, without scholastic and academic honors.

He starts inventing at the age of 38, and gets recognized as an inventor at the ripe old age of 52. He is, therefore, a "late bloomer," compared to Dr. Cuyugan's group, who supposedly is already established at 24. At 55, an American inventor is lamented as past his creative peak.

The Filipino inventor is usually male. Of the one hundred inventors sampled by Dr. Cuyugan's group, only one is female. Dr. Cuyugan's survey also shows that not one of the inventors included in the sample has written scientific articles on the theoretical or practical level. Neither have they demonstrated an interest in the more theoretical or advanced scientific journals. Their interest is concentrated on the applied sciences and mechanics. Theirs apparently is on the level of mechanics, of practicalism that evolves its own theoretical structure.

From Breakthrough of DAP □

Lessons by mail

HOW adequately a manager prepares to lead, motivate and inspire his staff to concerted action determines to a large extent how quickly and well work will be done.

In the Memorandum of Agreement executed on May 15, 1976 between the Civil Service Commission and the Department of Local Government and Community Development, Programmed Instruction Course on Supervision through Self-Instructional Materials (SIM) was implemented. This basic supervisory course is a joint project of the two agencies through the Office of Career and Employee Development and regional offices of the Civil Service Commission and the Bureau of Local Government, and regional and field offices of the DLGDO. The purpose was to reach some 1,650 local government first-line supervisors assigned in the rural areas, and to have few opportunities to attend formal training activities.

Programmed instruction offers a solution to the problem of how to bring training to these supervisors. It is a training technique by which participants learn by working through SIM. The materials are prepared in such a way that each participant is required to actively respond to the materials. He is provided afterwards with feedbacks and reinforcements. Workers need not be pulled out from their stations and brought to training centers for assembled training because the method calls for participants to work individually on the materials

and to proceed at individual rates of speed and convenience.

The initial phase of the program, covering the period from October 1975 to June 1976, has drawn a total of 867 participants from all over the country, with 792 passing the course. The 75 who failed can repeat the course in the second phase of the program implementation.

Here is the distribution of participants by region:

Region 1	46	passed	6	failed
Region 2	7	passed	8	failed
Region 3	30	passed	0	failed
Region 4	209	passed	27	failed
Region 5	62	passed	2	failed
Region 6	42	passed	2	failed
Region 7	125	passed	4	failed
Region 8	66	passed	17	failed

Region 9	95	passed	1	failed
Region 10	45	passed	0	failed
Region 11	54	passed	8	failed
Region 12	11	passed	0	failed

Total 792 passed 75 failed

Participants in the 12 regions were composed of municipal and assistant municipal treasurers, division chiefs, section chiefs, and supervising clerks from the various local government offices, high ranking personnel from the police force and from the fire department, executive assistants (provincial level), assistant provincial treasurers, postmasters, market superintendents and municipal planning and development officers.

Criteria for Selection. 1. Participant should be at least a first-line supervisor of any office in the provincial/city/municipal government; 2. Participant should be at least a high school graduate; 3. Participant should not be less than twenty-one nor more than thirty years of age; priority, however, should be given to those who are not retiring within the next two years; 4. Participant should have no pending criminal or administrative charges; 5. Participants from offices which have problems in supervision should be given preference along with those who have not undergone any type of training; and 6. A potential supervisor may also be considered upon certification of his immediate chief.

Formal training covers the unassembled stage and the assembled stage. The unassembled stage lasts for a month during which the participants have to read in their homes the three volumes of Introduction to Supervision sent to them earlier by the DLGDO through

the Bureau of Local Government (BLG), and the regional and field offices of the DLGDO. The three volumes contain 15 learning blocks covering 8 areas of supervision. The eight areas of supervision are: basic organization, community and human interaction, human motivation, leadership, training and development, work methods improvement, performance evaluation, and planning, organizing, directing and controlling.

The assembled stage is for three days. On the first day, participants undergo the first validation. The test papers are immediately corrected and the errors tabulated to determine the weak areas of the participants. The four weakest areas would then be the subject matter for the remedial session which follows the next day. The activities include lecturettes, games for experiential learning and open forums. On the third day, another validation follows, this time to determine who among the participants will pass the course and receive the training certificate. Seventy is the passing score.

The self-instructional materials alone do not guarantee the user the acquisition of the skills of a model supervisor. These materials are intended to provide the participant with an "information and awareness base." Provided this base, the participant may be able to selectively apply gained skills and knowledge to carry out his daily work of supervision more effectively and efficiently. No supervisor need start on his job without at least some information on what supervision is all about. □

— Alma Diputado

