

Researchers recommend computers to develop many majors

There's this rural area. It needs to be developed. Things like more income distribution, higher employment and a better overall quality of life are desired, but education and higher taxes aren't. So you take a sociologist, an agronomist, an economist, an agricultural production specialist and others.

Give them a computer and a programmer and tell them to build a model of the area inside a computer. A short time later,

they'll be able to tell you what has to be done.

Phrased a little differently, this is what two researchers with the Department of Agricultural Economics and Rural Sociology have suggested.

Drs. Ray V. Billingsley and Ronald D. Laceywell are talking about computer simulation, calling it potentially one of the most effective alternatives available for rural development research. "Simulation can be thought of

as modeling a real life situation and then performing experiments on the model," Billingsley said at a meeting of the Southern Farm Management Research Committee in Atlanta, Ga., last week. "Basically, these experiments are in the form of 'what if' types of questions."

What if taxes are lowered? What if a health clinic is built on the north side of the community?

What if a polluting industry

relocates to the region?

The computer can tell the planners what effect these variables would have on other performance variables, or on the system as a whole.

"Modeling of physical facilities, such as new buildings, is not new to architects or engineers," Billingsley said, "but it is new to the social scientists."

Billingsley and Laceywell, both of the Texas Agricultural Experiment Station, listed as examples

some models operating in the Dominican Republic, eastern Tennessee, Nigeria and California.

According to Laceywell, one model, set up in the Dominican Republic, is designed to tell planners what effect their efforts in population control will have on the general economy.

The model is set up in such a way that changes in the rate of population growth will produce changes in death and birth rates. These will produce changes in the

age composition of the population, which will affect the size of the labor force and the consumption patterns of the population.

A few more relationships are affected in the pattern with the final result showing that the country's gross national product is not materially affected by the population growth rate. Gross national product per capita is, however,

In other words, the individuals

are much better off than they otherwise would have been. The per capita GNP increases as the population growth decreases.

Another model was set up to evaluate agricultural floodplains. Laceywell discovered that farmers in floodplain areas have a tendency to limit their use of floodplains through fear of flooding. Following the computer evaluation, floodplain net returns have been shown to increase, on the average, as much as six to seven times over the returns prior to the evaluation.

Billingsley and Laceywell suggest that, for rural development research, submodels be developed in the areas of economics, physical land use, sociology and biology (ecology). Variables such as income, employment, community services, pollution, resource use and tax base would be included.

The submodels would be linked together by an executive program using the relationships among the submodels.

"With such a model," Billingsley said, "there is an opportunity to manipulate many policy variables and observe their effects in a very short time."

He stressed that the decisions regarding development objectives lie with the community leaders.

"The model simply indicates the outcome of different actions," he said.

Monsanto Co. awards grants

Monsanto Co. has awarded A&M three grants totaling \$3,300 in support of the institution's programs in chemistry and chemical and mechanical engineering.

Dr. H. D. Grove Jr., manager of process technology at Monsanto's Texas City plant, presented the grants to Engineering Dean Fred J. Benson and Science Dean J. M. Prescott in campus ceremonies Monday. Dr. Grove is chairman of the Monsanto Aid-to-Education Committee for the southwestern area of the United States.

The funds include \$1,500 for the Chemical Engineering Department, \$1,000 for the Mechanical Engineering Department and \$800 for the Chemistry Department. The firm awarded a \$500 grant to the Petroleum Engineering Department earlier this year.

Winkler awarded \$500 scholarship

Charles J. Winkler of Smithville has been awarded a \$500 Armed Forces Communications and Electronics Association scholarship for his studies at A&M.

An electrical engineering major, Winkler is an Army ROTC cadet, Company K-1 first sergeant and Distinguished Student.

He was selected by President Jack K. Williams and Col. Thomas R. Parsons, professor of military science. Dr. W. B. Jones Jr., Electrical Engineering Department head, supported Winkler's nomination.

The award is made annually at outstanding senior Army, Air Force and Naval ROTC institutions. The recipient must be in a field of study leading to a career in communications and is selected on the basis of scholastic standing, character and military potential.

Winkler has a 3.6 overall grade point ratio in TAMU's 4.0 system, has been a Distinguished Student every semester and has straight A's in military science. He is a member of Phi Eta Sigma, national freshman scholastic fraternity, and the Institute of Electrical and Electronic Engineers.

Hix receives scholarship

Carroll G. Hix, son of Mr. and Mrs. Gene Hix of Oak Hills, has been awarded the Alpha Pi Mu sophomore tuition scholarship in industrial engineering at A&M's College of Engineering.

Hix was selected by a three-member committee of the local student chapter of the industrial engineering honor society.



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