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**SELECTIVE STUDIES PROGRAMMES APPLIED IN GREEK
UNIVERSITIES AND TECHNOLOGICAL EDUCATIONAL INSTITUTES:
The Case of Innovation Management for Agriculture
and Agricultural Industry**

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ABSTRACTS

This paper describes the Greek Educational Scheme and outlines the need for changes toward a more flexible system enabling the working forces to continuing education.

The “**Selective Studies Programmes (SSP)**” an innovation to the Greek situation is one educational alternative meeting the above objective. The controversial issue of “**SSP**” is discussed herewith and the advantageous characteristics are outlined. Among those characteristics are mentioned: The flexibility of the programmes, life education, gradual liberalisation of the entrance system to higher education, high quality and low cost, and connection with the labour market.

Next, the existing “**SSP**” all over Greece are encountered, and those with agricultural directions are described. Finally the “**Selective Studies Programme: Innovation Management Programme for Agricultural and Industrial Era**” is presented.

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1. Introduction

This paper "does not bring an awl in Athens". The educational system Greek Government is approaching through the "SSP" is well known in many of the audience' countries. The main reason to present it here is not only to let you the participants know what is new in Greek Education but to get the audience' contribution on what it is developing in Greece. This feedback will enable the Greek authorities as well as the Technological Educational Institute (TEI) of Thessaloniki people in charge for the new course of studies, for further actions that will benefit the Greek Society.

According to OECD¹ the educational level of the active Greek population is not at that level most of the European countries have reached. Also, the number of students Greece has in post secondary education is less compared with the rest EU countries². These two facts result the need to a significant increase of the number of students in post secondary education. This is more or less steady after 1986. Today, the post secondary education offers 55.000 student vacancies while the total number of students applying to enter the post secondary education are about 150.000.

This decrease of vacancies in the post secondary education to be filled with the use of entrance examination, created among other problems severe impact to the secondary education system which more or less has changed into a tutoring system preparing candidates for the post secondary education. It also resulted into an "exodus" to other countries' universities of those students failed to enter the Greek post secondary education institutions.

The creation and the application of a system capable to provide solutions to the above problems without decreasing the quality of the post secondary education is more than a must in a period where universal structural changes in the production and use of knowledge occur. Such a policy toward this direction must have two objectives: the reformation of the secondary education system, and the gradually introduction into the post secondary education of a very flexible programme of studies which will simultaneously meet the students expectations and the continuously changing work market needs in specialised work forces.

In the frame of this upgrading of the education, among other actions, one is the "SSP" a scheme incorporated in the post secondary education system. These programmes are expected to enlarge (dilate) the alternatives offered by the traditional studies in the post secondary

¹ OECD, 1997: OECD Indicators 1996, and OECD, 1996: OECD Indicators 1995

education. These alternatives, will be more adapted to the needs of the work market and will offer new diplomas in new eras of knowledge. It is also expected that through the new abilities and skills developed, the needs of the market to be satisfied and with the increase of the investments to minimise the unemployment of post secondary degree holders.

It has been estimated³ that the post secondary education vacancies in Greece will increase, during the coming five years, from 55.000 to 85.000. This increase is foreseen to be spread among the existing post secondary education programmes as follows: 18.500 vacancies for 70 new programmes and 11.500 for the existing ones.

2. The Educational System of Greece

As it is shown in graph 1, the Greek educational system consists of three levels. The post secondary includes the Universities and the Technological Educational Institutes. The first provides agricultural studies lasting ten semesters and the second agricultural studies of seven semesters. Exception is the studies of food technology lasting eight semesters. Both institution diplomas are regarded as post secondary education diplomas.

3. "Selective Studies Programmes"

The "*SSP*"⁴ are planned to differ in structure from those traditional in the post secondary education. The new "*SSP*" are promoting:

3.1. Flexibility - supplementarity - continuing education (life education)

The "*SSP*" will be governed with increased flexibility resulting in the diversification regarding the subjects taught and the supplementarity to the existing traditional programmes of studies. They will have groups of subjects of one or more relevant disciplines.

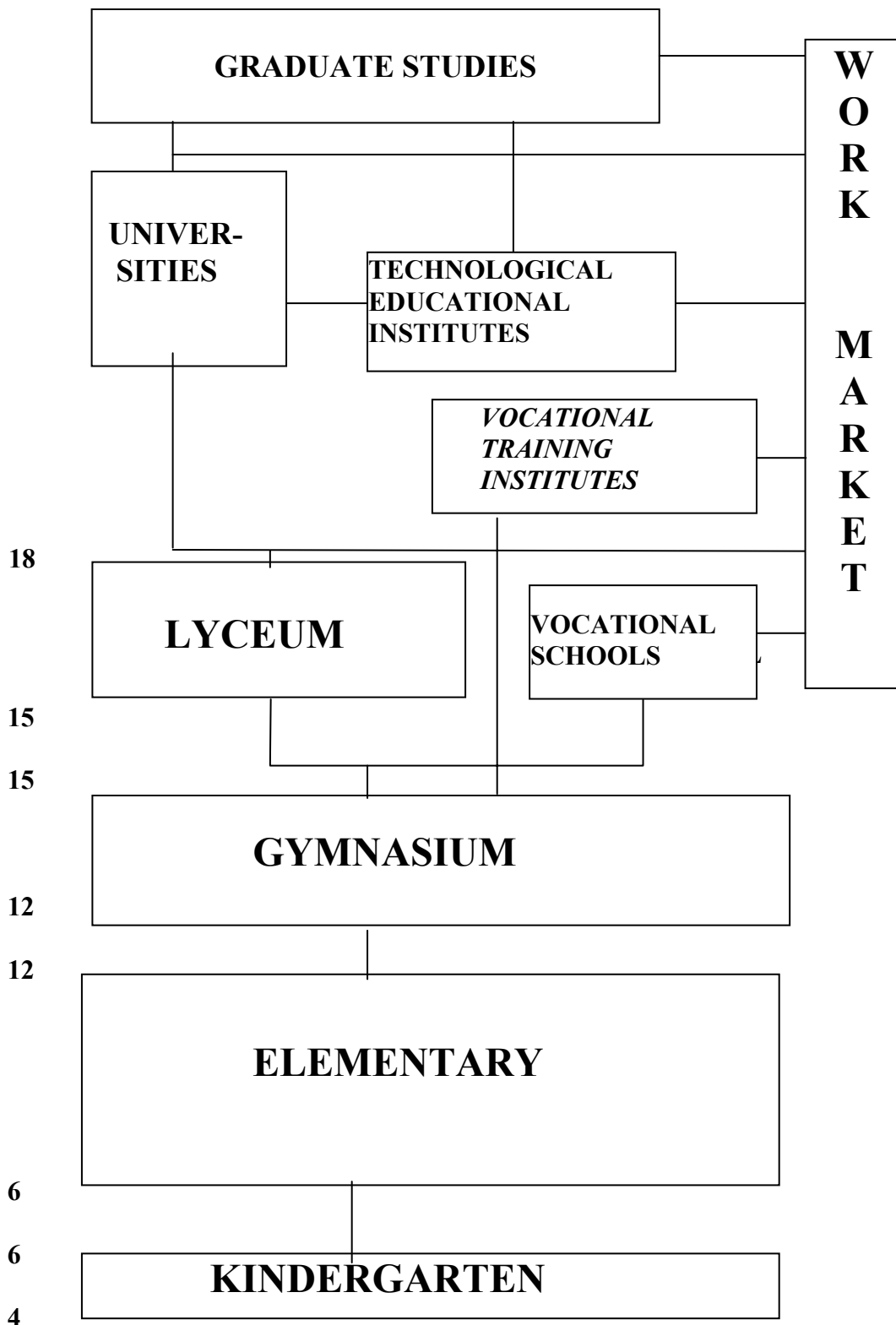
Thus, the "*SSP*", while they are keeping their equivalence with the traditional programmes (about 40 courses) resulting in an equivalency of the degrees offer equivalent degrees and are structured in such way so that the final result (the diploma) is the combination of basic educational modules corresponding to a certain specialisation.

² Greek Ministry of Education and Religion, 1997: Education 2000- An Education with Open Horizons

³ Greek Ministry of Education and Religion, 1997: Education 2000- An Education with Open Horizons

⁴ Official Gazette, 1997: Law 2525

AGE



Graph 1. The Greek educational system

This structural differentiation will also allow to the students or graduates to supplement their knowledge by adding to their initial diploma certain additional certified credits.

It is also provided the possibility to the students of the existing traditional programmes to change course of studies in order to make the best use of their gained knowledge and experience. This is important at the Greek situation since several students had been forced to enrol into various specialisations that were not of their interest due to the selection system applied.

The "*SSP*" are characterised with a flexibility and cross-disciplinary entity offering to the student the possibility to get credits from equally recognised local or foreign institutions as well with the assumption that these courses are relevant to the course of studies in question.

Another characteristic of the "*SSP*" is the flexibility offered to the students to complete their studies at their own pace without following the obligations of the traditional programmes. This orients the described programmes to a continuing education (life education) process.

Furthermore, there is possibility courses to be taught in other languages than Greek. That way, it is expected students from foreign countries and especially from the neighbour ones to be attracted. A Balkan Conference on the matter is to be organised in Thessaloniki in due course.

3.2. Gradual liberation of post high school education enrolment

The ultimate goal of entering the post secondary education (Universities and Technological Education Institutes) freely and with no barriers is to be gradually achieved according to relevant legislation recently put in action (1998). The first step in achieving the above liberation in entering the post secondary education is the "*SSP*". It is foreseen that several criteria will be used in creating the instrument with which the applicants will be shorted. There is also planed that several categories of candidates with different percentages are to be included in the selection process.

The number of students to enrol in each programme depends on the existing structure of the Institution and the availability of the proper for the specialisation existing teaching staff. The courses each student can attend are limited to three per quarter and to nine per year. Flexibility of these programmes allows for summer courses if needed and for credit transfer from and to Open Universities.

3.3. Higher quality with less functional cost

The objective of the “SSP” is the development of better quality of educational work in the post secondary education. The quality of the educational product will be evaluated systematically as it is also foreseen from the European Community regulations where the financial assistance for these programmes is coming from. Furthermore, the relationship between the teaching personnel and the students is to be developed with modern systems of educational methods and the use of laboratory equipment.

Among the important elements of a different education is the use of new educational technologies such as multimedia and distance learning which will speed up the access in gaining the available information from the proper sources and will make better use of the existing infrastructure of the Institutions.

The existing traditional programmes in the Institutions it is expected to benefit through the evaluation procedures of these programmes and with the continues assessment of the programme productivity. This will lead in reconsidering the total time necessary for completing a course of studies and the number of courses needed for completing an educational programme. It is also expected that all above will contribute in updating the infrastructure and the institutionalisation of the practical instruction.

Regarding the functional cost of the programmes, it is foreseen the average cost of “*student-course-diploma*” to reach a lower level than the traditional programmes taking also into account the peculiarities of each programme. This is expected due to:

- The flexibility of the infrastructure and of the teaching personnel
- The best and intensive use of the classrooms and the laboratories of the host Institutions resulting in limiting the average cost per student in the Institution
- The use of new educational technologies
- The combination of traditional courses into the new programme
- The use of distance learning

Tuition for the students is free of charge for those under the age of 25 years. Those of a higher age have to pay all the cost if not granted waving. Scholarships also can be provided for outstanding students or for those having need of financial help.

3.4. Connection with the labour market

The pursued flexibility of the “SSP” will allow a better adaptation to the existing needs of the society and those of the labour market in areas not satisfactorily covered by the

traditional programmes. The modular structure of the "*SSP*" will allow the easier introduction of new disciplines, as well as the easier reorientation whenever needed resulting in the most productive response to the challenges of technological innovations. This will be more fruitful after having practical instruction incorporated with theory in most of the courses.

3.5. Characteristics of the "Selective Studies Programmes"

Among the major characteristics of the "*SSP*" the following are included.

- The student progress and their graduation is controlled qualitatively.
- The students are able to enrol only in courses according to their preference and their needs. One graduate for example from another discipline may complete his studies by attending five more courses offered at one of the "*SSP*" of another specialisation either relevant or not of the students initial specialisation. Because of such flexibility, the new programmes provide more alternatives to the students in comparison with the traditional programmes where a student has to follow all the courses of the programme in order to fulfil the graduation requirements.
- Courses can be offered during the summer time more intensively leading to three periods per year instead of two of the traditional programmes.
- Although the minimum period of a course of studies is 4 years, the expected time for the students to complete their studies is longer than the traditional programmes' time since students are allowed for a part time enrolment.
- Students are entitled either for a diploma equivalent to the traditional ones offered by the Institution or for certificates certifying the course of studies students had selected for credit although diploma equivalency is not to be granted.
- Students from other Greek or foreign Institutions may transfer credits to the "*SSP*" and vice versa.
- All "*SSP*" are legally exercised only after the approval of the Ministry of Education similarly with the procedure followed for the traditional programmes.

4. The “Selective Studies Programmes” in Greece

Proposals for such programmes have been submitted to the Ministry of Education and Religion and several were approved and will start until September 1998 if they are not already in session.

The total approved programmes number 32 and the functional cost for the first two years reaches the amount of 7.2 billion drachmas (about 20.6 million ECU). The “disciplines” or interdisciplinary areas in which these programmes will be developed are:

- Humanities
- Science
- Economics and Management
- Technology
- Environment

Out of the 32 “SSP” approved by the Ministry of Education, seven are more or less agriculturally oriented. As seen in table 1 they are scattered all over Greece. Some of those are under the auspices of Universities and other of TEI.

Table 1. The “Selective Studies Programmes” with agricultural orientation

	INSTITUTION	PLACE	PROGRAMME TITLE	BUDGET ECU (000)
1.	Technological Educational Institute	Thessaloniki	Innovation Management for Agriculture and Agricultural Industry	715
2.	Technological Educational Institute	Iraklio	Management of Agricultural Ecosystems	550
3.	Technological Educational Institute	Kavala	Management of Productive Units	430
4.	Technological Educational Institute	Kalamata	Technology of Integrated Agriculture	430
5.	University of Thessaloniki	Thessaloniki	Agricultural Economics	715
6.	University of Thessaly	Volos	Management of Agricultural Environment and Natural Resources	860
7.	University of Ioannina	Ioannina	Applied Agro-ecology	815
Total				4.515

5. The "Selective Studies Programmes" in the Technological Educational Institute of Thessaloniki

At the Technological Educational Institute of Thessaloniki two programmes were approved⁵ and are in session: The "*Environmental Technology*" and the "*Innovation Management*".

Both seem promising to meet the objectives of the "SSP" and the purpose for which they were created.

In table 2 the Course outline of both programmes is described and someone can observe that the programmes have similarities and differences. This ought to be one of the characteristics of the "SSP". Depending on the society's needs these programmes are not only flexible but have no rules regarding uniformity. Graduates may have granted their diploma while the courses followed by each individual may differ in several ways. Only the total credits taken by each must sum similarly. In table 3 the ratio between theory and laboratory also varies is shown.

⁵ Official Gazette, 1998: Ministerial degree E5/1323

Table 2: Course outline of Technological Educational Institute of Thessaloniki "Selective Studies Programmes"

Area of Studies	INNOVATION MANAGEMENT PROGRAMME												ENVIRONMENT TECNHOLGY PROGRAMME					
	AGRICULTURAL SPECIALIZATION						AGRO-INDUSTRIAL SPECIALIZATION											
	Theory (Hours)			Laboratory (Hours)			Theory (Hours)			Laboratory (Hours)			Theory (Hours)			Laboratory (Hours)		
	Weekly	Total	%	Weekly	Total	%	Weekly	Total	%	Weekly	Total	%	Weekly	Total	%	Weekly	Total	%
Sciences	20	200	16,1	12	120	17,1	20	200	16,9	12	120	17,1	68	945	37,3	47	660	51,8
Economics	38	380	30,6	12	120	17,1	30	300	25,4	10	100	14,3	2	30	1,2	0	0	0,0
Managerial	34	340	27,4	8	80	11,4	30	300	25,4	6	60	8,6	4	60	2,4	0	0	0,0
Technology	24	240	19,4	18	180	25,7	30	300	25,4	22	220	31,4	71	990	39,1	44	615	48,2
Other	8	80	6,5	20	200	28,6	8	80	6,8	20	200	28,6	36	510	20,1	0	0	0,0
TOTAL	124	1240	100,0	70	700	100,0	118	1180	100,0	70	700	100,0	181	2535	100,0	91	1275	100,0

Table 3: Technological Educational Institute of Thessaloniki "Selective Studies Programmes" Theory - Laboratory ratio

AREA OF STUDIES	INNOVATION MANAGEMENT PROGRAMME				ENVIRONMENT TECNHODOLOGY PROGRAMME	
	AGRICULTURAL SPECIALIZATION		AGRO-INDUSTRIAL SPECIALIZATION			
	Theory %	Laboratory %	Theory %	Laboratory %	Theory %	Laboratory %
Sciences	63	38	63	38	59	41
Economics	76	24	75	25	100	0
Managerial	81	19	83	17	100	0
Technology	57	43	58	42	62	38
Other	29	71	29	71	100	0
TOTAL	64	36	63	37	67	33

5.1. The "Selective Studies Programme: Innovation Management"

This programme is planned to offer two specialisations; one in agricultural area and another in agricultural industry with more emphasis in food technology. The graduates are expected to be capable in introducing technological innovations in agriculture and agricultural industry.

One of the basic problems of the enterprises in agriculture as well as in the industry is the need to keep up with the technological changes due to the advancement in science and technology. Equipment and working forces in the enterprise become obsolete soon and less productive leading to a less competitive enterprise. The need of the enterprises to staff with employees having a broaden understanding of the technological innovations is the main objective of this programme and this is to be achieved only when this staff is well trained in new topics and better adapted to the real needs of the market and are masters of the methodology of rational application of this knowledge. Thus, the need will be covered having a multidisciplinary programme where teaching will occur in an updated educational environment with the use of modern educational technology.

In meeting the above objectives, the need of more than one traditional department of those existing at the Technological Educational Institute of Thessaloniki to unify their forces experience and knowledge was understood. Thus, the departments: Farm Management, Food

Technology, Accounting, and Vehicles Technology formed together the new “*Selective Studies Programme*” under consideration.

The Technological Educational Institute of Thessaloniki provides the umbrella under which the programme is running and all the facilities available in the Institute are at the programme’s disposal. This means that the technological laboratories, the computer labs, the Internet facilities and the Institution’s farm are all tools for making the training of the programme’s students as better as possible. Meaningless to say that the teaching faculty of those departments is also engaged in teaching where some times other teaching personnel from other departments or outsiders is used.

Specifically, the Innovation Management Programme is oriented toward:

- The use of friendly to environment methods of plant and animal production
- The use of cost effective production methods
- The transformation of the agricultural production with mild and environmental friendly practices with an effort to minimise the quality reduction of the processed production. All these under the ISO standards.
- The application of the Total Quality Management and Marketing principles in a way to give market competitive products.
- The application of the innovation technology working under the principles of the modernisation of the enterprises with economical standards.

5.2. Curriculum/courses description

The programme offers two specialisations: the “*Innovation Management for Agriculture, and Innovation Management for Agricultural Industry*”. Several courses “body courses” are common to both specialisations and are offered during the first two quarters.

An other group of courses belongs either partially in the “body courses” category or they are specialised offered only to corresponded specialisation. Courses are either theoretical, or laboratory’s or mix (theory and laboratory).

The course in groups are **theoretical** (applied mathematics and statistics, physics, etc), **technical** (drawing, electro-technical installations etc.) **economics** (micro and macro economics, accounting etc.) **managerial** (total quality management, business management,

innovational systems, etc.) **agricultural and rural development** and **computer science and multimedia**.

The courses are to be taught for 15 quarters (three per year) and during the last quarters the theoretical courses are replaced with seminars and project work which is always supervised by specialised teaching personnel and by people coming from agricultural and industrial enterprises. Last, the thesis is one of the prerequisites in fulfilling the requirements of the course of studies.

Characteristic of this programme is that a student may select courses from the other specialisation as well. The same is the case when the student selects courses offered by the traditional departments of the Institution or even by another Institution or University. All are permissible under the consideration and approval of the programme authorities.

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