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PRELIMINARY ANALYSIS OF
EDUCATION AND HUMAN RESOURCES PROGRAM PRIORITIES
IN
COSTA RICA

SUMMARY
AND
WORKING DOCUMENT

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June 1985

NOT FOR EXTERNAL DISTRIBUTION

INTRODUCTORY NOTE

This summary document, as is implied by its title, is the outcome of an exercise that is somewhat different than those carried out in the other Central American countries. Instead of forming "Education Action Planning teams" per se (e.g., four individuals brought in to carry out discrete analyses of specific sub-areas - primary education, vocational/technical training, adult education, higher education), USAID/Costa Rica opted to bring in a two person team who, complemented by a Costa Rican expert, carried out a preliminary analysis of the education and human resources sector in Costa Rica in order to identify overall program priorities.

The result of the team's effort, then -- rather than the drafting of narrative for potential projects, as has been the case with the other exercises -- is an identification of possible areas for USAID/Costa Rica intervention in the education sector, should the Mission take the decision to become involved in this sector.

Since the team left its report, the Mission has had an opportunity to review it and discuss its contents. Mission personnel are basically in agreement with the team's key recommendation: that instead of following a formalized "project" approach, limited amounts of DA dollars complemented by ESF local currency generations be judiciously applied in different education sub-sectors. The Mission is also in agreement, in principal, with the suggested list of activities included in the report. What remains, however, to be done is to select from among the list of suggested activities those which the Mission finds most appropriate for implementation at this point in time and incorporate these activities into the Mission's revised Action Plan which it plans to submit to AID/W this fall.

SUMMARY

The consultant report was prepared for USAID Costa Rica by Frank Method of AID/W, Raymond San Giovanni (consultant) and Professor Luis Solis of the University of Costa Rica. The team worked from statistical reports and project documents available in Washington and in San Jose and conducted interviews and site visits in Costa Rica June 10-20, 1985. Necessarily, the short but intense inquiry was selective, concentrating mainly on the formal education and training systems. The findings and recommendations should be read as first approximations identifying areas for further program analysis and discussion.

General findings and observations:

1. By most quantitative indicators, Costa Rica compares very well with most countries. There is essentially full enrollment at the primary level (Cycles I and II, grades 1-6), with a reported 68% completing 6 years. Of these, about two-thirds complete Cycle III (grades 7-9) and about 60% one of the secondary options. Post-secondary enrollment is over 20% of the age group. In addition, there are diverse non-formal "parasystem" training options available at all levels. Quantitative expansion appears needed mainly for vocational secondary and for post-secondary technical and professional training at the associate degree or certificate level, possibly along the lines of a community college system.
2. Equity and distribution patterns also appear reasonably satisfactory. Enrollment at all levels is stable or increasing in all Regions except Central and Occidental, where it is declining. This suggests qualitative and access differences by Region are moderating and the need for students to travel to the better endowed Regions for schooling is decreasing. The main problems appear to be a) the distance students in smaller villages must travel for Cycle III and Secondary school (in large part a population density and transportation problem) and b) the lack of a technical institute in the Atlantica Region (Limon). Female enrollment is high (over 50%) for most levels and types of training. Remaining problems appear to be mainly in vocational secondary (female enrollment is high but biased by vocational field) and at the university level (female enrollment appears low but not biased by field). The main problems are reported to be self-selection by women preferring other fields of study and some resistance for young women studying away from home. Spatial decentralization to create more diverse training options outside the Central Region appears to be the most promising line of action.
3. Much of the expanded access at the lower levels has been accomplished by providing one-teacher (UNICO or "Unidocente") schools. These account for 45% of the total Cycle I and II schools, but only about 15% of the children. While such schools are key to universal access, there are a number of problems to be addressed. These include: a) substantially greater administrative and supervisory burdens, b) lack of any back-up for the teacher (making any

administrative absences more consequential), and c) both the standard teacher training and the standard text materials are not appropriate for multi-grade instruction situations requiring more small group activity, self-study and unsupervised practice. In-service training for teachers and local administrators/supervisors as well as self-instructional text and exercise materials appear to be the most promising lines of action. Also, USAID might consider selective refurbishment of rural UNICO schools using the SDF mechanism in cooperation with Peace Corps.

4. A number of qualitative and efficiency problems can be identified. Though quantitative enrollment and coverage are high, there is significant wastage in the form of grade repetition and of non-continuation between Cycles. Dropout within Cycles appears to be a lesser problem, except for dropout in the first year. Further study is recommended to determine what happens to the dropouts -- particularly, more disaggregated small sample tracer studies and age-for-grade studies. The most promising lines of action appear to be a) increasing the availability of basic instructional materials, (particularly texts) b) specialized teacher in-service training (possibly combined with self-instructional materials) for the one-teacher primary schools and c) improving access to Cycle III schooling in the smaller villages (possibly through smaller schools and/or improved school mapping and location to site the schools more appropriately in terms of local transportation).

5. Most quantitative growth at the secondary and post-secondary levels is in the technical and vocational options (including commercial fields), with the absolute enrollments in academic secondary declining. While there are problems with outmoded equipment and inadequate recurrent budgets (particularly for consumable supplies) there is satisfactory quantitative growth at the secondary level. The unmet social and economic demand for specialized technical training appears to be mainly at the post-secondary level. At both levels, the main options for USAID appear to be selected commodity support for equipment and consumable supplies and selected TA or training to assist with the planning of additional course offerings in new or emerging fields (for example, in electronics, instrumentation and control technologies, information and computer sciences). USAID may also wish to explore support for production activities associated with technical training institutes, such as the production cooperatives associated with vocational secondary (in cooperation with Peace Corps) or the Talleres Publicos de Capacitacion y Produccion centers run through INA to provide production skills training for the informal sector.

6. A general problem for industrial and commercial training is the inadequacy of labor market and manpower analyses and the lack of much specificity to the projections of manpower requirements (thus training requirements) particularly for emerging investment sectors. TA directed to the private sector to improve these analytic, skill specification and personnel management capacities appears more needed than TA directed to the training institutions.

7. While there are a number of problems at the university level, the team did not share the general opinion to the effect that the universities have expanded beyond professional labor market requirements, require a disproportionate share of available education resources and have many departments which are highly politicized and of dubious academic quality or relevance. There does not appear to be significant graduate under- or un-employment even in the current economic climate and there is some evidence that enrollment patterns and course offerings are changing in response to changing perceptions of the labor market. Though quality is uneven, particularly in the social sciences and in the private universities, there are many departments (particularly technical departments such as engineering) where quality is high and improving. The opinion expressed at INCAE is that graduate students from U/Costa Rica are consistently among the best prepared in the CA Region. In general, USAID is advised to view the existing universities as resources to be more fully utilized in project and program activities rather than as entities to be further developed and expanded. While there does not appear to be a need for financial assistance for university expansion (the universities are generously funded) USAID might assist through TA and training to a) further dialogue and planning toward a community college system, b) improve mechanisms for external funding of university-based research and services, c) evaluate options for decentralization using Open University approaches and media. USAID might also consider support for selected equipment needs in some of the engineering departments and technical institutes.

8. There is considerable interest in developing national achievement standards, tests and measures. While some assessment tools need to be developed, development of a national assessment system is likely to be a relatively expensive long-term commitment and politically sensitive. USAID is advised to proceed cautiously, assisting mainly through participant training and TA to expose key educators to test and measurement design and to the administrative and logistic problems of various testing systems.

9. National level education data collection and data analysis capacities appear adequate. However, there is little education systems research of a diagnostic nature and there does not appear to be much analysis or analytic capacity at the district and regional levels. There is beginning to be some work on learning processes and education assessment in the universities (e.g. IIMEC at UCR) and comparative research through networks such as the OAS-supported PROCAMIE/REDUC. More disaggregated and locally analyzed data collection should be encouraged. The utility of the education data for planning purposes is limited by the lack of reliable demographic and labor market data. Improvement of these may be critical to improving education planning. There are many opportunities for USAID to contribute to improved education data collection and analysis without involving itself in actual research projects. Options include: participant training for researchers; local currency allocations to support programs of small sample surveys and

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local field research; local currency allocation to support publications or to augment staff of organizations such as PROCAMIE/REDUC which provide a networking function; short-term TA to allow selected U.S. researchers to conduct workshops or seminars in Costa Rica.

10. Three specific areas were identified where USAID support for research and analysis may be strategic to future education plans and resource allocations. These are:

a) Analysis of the demographic trends and factors affecting the growth and distribution of relevant school cohorts. There is a major inconsistency between the pattern of relatively flat enrollment in the first two cycles over the past decade and the general consensus that Costa Rica has over this same period made significant progress toward essentially universal enrollment at the primary level. Some hypotheses are suggested in the report, but the main recommendation is that The Futures Group be invited to present the Education Simulation (EDSIM) model. EDSIM, developed over the past two years with support from PPC/PDPR, incorporates internal and external migration variables as well as age-specific fertility rates which enable computer-generated projections of school age cohort size and distribution under varying assumptions.

b) Analysis of education finance, administrative and logistic systems. There is a need for production function studies at the school level and for examination of central systems for paying and supervising teachers, distributing texts and other materials, school building, etc.. There are a variety of "nuts and bolts" issues for which USAID might provide short-term TA and/or short-term participant training to examine mechanisms for dealing with similar problems in the U.S. or other countries. A specific suggestion is for presentation of the financial management software developed at AED, which appears applicable to the centralized line-item budgeting used in Costa Rica.

c) Analysis of the relationships between the increasing availability of pre-school and kindergarten programs may contribute both to improved design and administrative support for these programs and to improved understanding of the impact of these programs on Cycle I grade repetition and achievement patterns, adult female training and employment patterns and other impacts. For example, an hypothesis is that a significant part of the grade repetition and dropout in the first year is due to underage enrollment, which should moderate as pre-school education becomes more widely available. An additional possibility is that the pre-school programs may provide a means of early screening and diagnosis of learning problems which (if unaddressed) lead to wasted resources and effort in the primary school and to additional need for special education interventions. The Peace Corps has expressed an interest in working in this area; it relates both to current PC programs in Special Education and to anticipated work with nutrition education centers.

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In conclusion, while Costa Rica's education and training system compares very well on most criteria with systems in other countries, there remain a large number of areas in which USAID can make a very useful contribution without necessarily developing burdensome or complex bilateral projects of technical and financial assistance. There is a solid core of institutional models; capable education administrators and planners/researchers; a long-standing national commitment to providing education and training of high quality with reasonable equity, and; a general consensus on the main lines of activity needing to be pursued for further improvement and orientation to the changing needs of the Costa Rican economy and society. USAID can make a major contribution through the judicious allocation of local currencies for selected materials and operating costs of innovative programs, participant training to enable key educators to examine institutional models and education practices in other countries and selected short-term TA to enable key U.S. educators to assist in transferring specific technologies as well as to enable Costa Rican educators to participate as colleagues in appropriate professional networks.

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Costa Rica Education and Human Resources Development,
Preliminary Analysis and Program Recommendations for USAID

Consultant Report

for

USAID San Jose

June 21, 1985

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Costa Rica Education and Human Resources Development:
Preliminary Analysis and Program Recommendations for USAID

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Costa Rica Education and Human Resources Development,
Preliminary Analysis and Program Recommendations for USAID

Historical Background

Costa Rica has long been committed to the development of secular, publicly funded education. In 1824, three years after independence from Spain, the government reorganized the "schools of first letters" and began to develop an integrated primary school system independent from the Roman Catholic Church, which had provided most education during the Spanish rule. In 1869 a six year primary education for all citizens was declared "free, compulsory and funded by the State".

Despite this declaration, public education remained limited in scope and coverage, available mainly in the urban areas and relying on foreign teachers, until the end of the century. It followed a lancasterian model stressing individual skills and strict memory training until about 1920 when another set of educational reforms was undertaken, influenced by educational theories such as Dewey's and popular social movements in Europe and Latin America. This led to aggressive attempts to make education more "popular", expanding access in rural areas, stressing vocational content and sometimes accompanied by a strident nationalism.

The availability of sufficient numbers of trained teachers to meet the goals of universal public education continued to be a major constraint. Without a university since the closing of the University of Saint Thomas in the 1880's, the education of teachers became the sole responsibility of a French patterned Superior Normal School. Unable to satisfy the demands of a growing school system, the Government began programs to produce instructors in large numbers. These instructors were to work primarily in the rural areas and although not professional teachers by academic training they were given full responsibilities as such. This led to a significant quality gap between rural and urban education which persisted until the 1960s, when aggressive measures began to be taken to correct the deficiencies.

Among the measures was a rapid expansion of university and other post-secondary training capacities, which included teacher training capacities. With the reopening of a formal university in 1942 (Univ. of Costa Rica) the country was finally able to develop its own human resources locally. Originally housing programs only in three major fields (Law, Agronomy, Education) the university has expanded in size and complexity -- to more than a dozen colleges, thirty schools and departments and over 25,000 students in 1985. Presently Costa Rica has five universities (*) with an estimated 55,000 students.

(*) Four public universities: Universidad de Costa Rica, Universidad Nacional, Instituto Tecnológico, and Universidad Estatal a Distancia. One private: Universidad Autónoma de Centro América. Regional and private institutions with post-secondary training include INCAE, Universidad Nacional de San Diego, CADES, and others.

Stimulated by external financing and favorable trends in the prices of agricultural exports, the 1970s brought renewed governmental efforts to expand educational services. In 1973, the compulsory basic education was made 9 years (Cycles I, II, III) and the secondary system was diversified to include technical schools along with the academic schools and leading to equivalent certificates. A non-formal system or "para system" was restructured and expanded to provide second chance opportunities for children and adults who had dropped out or been by-passed by the formal system. Other programs such as the "asignaciones familiares" were introduced to provide meal services in most schools.

Later in the 1970's, several steps were taken to restructure post-secondary and technical education to achieve better distribution of training capacities and to respond more effectively to additional training needs, particularly in the rural areas. Among the steps were, a major expansion of secondary technical colleges (IDE credit), establishment of a series of regional university centers providing some or all of the coursework for UCR degrees, Colegios Universitarios and the UNED open university.

These, along with the national apprenticeship training institute (INA, established in 1965) and a large number of private and public non-university training programs in the "para system" give Costa Rica today a larger, more diverse and better distributed (spatially) university and technical training system than is found in most countries. Costa Rica can be proud of this accomplishment.

Education and training opportunities have expanded rapidly and the disparities in quality and opportunity in rural areas which marked earlier years have diminished greatly. Training in agronomy and other agricultural skills is prominent in secondary and university programs. Nevertheless, the education system has been oriented mainly toward the needs of an industrializing economy and the skill requirements of the modernizing urban sector.

The quantitative impact of the "baby boom" from the 1950s combined with rising expectations of an increasingly urban middle class and the social and political demands of an increasingly organized and articulate public bureaucracy (in which teachers and professors played major roles) to create powerful pressures for expanding public services and public sector employment. Thus, some of the same pressures which led to the expansion of education and training opportunities also made it increasingly difficult to reorient training priorities to the emerging needs of the private sector, to reallocate resources and to implement additional education reforms.

Constraints to further progress

Costa Rica faces three main constraints to its ability to meet its remaining qualitative, quantitative and distributional education and training needs. These are:

-- a severe budget crisis, constraining funds for qualitative improvements, particularly for non-salary costs of instruction,

-- a rigid budgetting process, with major parts of the public budget (including that for universities) earmarked by law, practice or constitution, and,

-- a relatively centralized administrative bureaucracy, combined with an exceptional degree of political participation in decisions and appointments at all levels.

In addition, a major constraint to progress in reorienting training institutions and programs to the needs of the private sector and the hoped-for progress in developing new economic subsectors (either for export or for the domestic and regional economy) is that the private sector is not well organized or able to articulate its human resources requirements with sufficient specificity or force. While the inertial forces in the public sector and in the public education and training institutions must not be minimized or ignored, it is apparent that much of the leadership for new initiatives must come from the private sector and be implemented with significant participation (financial, technical and administrative) from employers in the productive sectors.

Trends and opportunities for further progress

In addition to the long-standing emphasis which successive governments of various political orientations have given to expanding education, and the success which Costa Rica has had in implementing major reforms over the past two decades, three factors give grounds for optimism that Costa Rica will be able to address its remaining education and training problems. These are:

-- There is an excellent set of education and training institutions already in place, with at least partial models for most types of education and training which might be given priority in the future. Thus, few initiatives or innovations are likely to be considered too unconventional or alien for consideration and there are nuclei around which new programs or institutions can be built.

-- The human resources necessary to provide leadership for new initiatives or reforms is already largely in place. While some may argue that there are uneconomic surpluses of university trained personnel, that is a separate issue from that of whether Costa Rican leadership and technical capacity exists to address its own problems.

-- There is awareness and acceptance of the utility of research and analysis for public policy decision-making as well as a number of research institutions and units with the technical capacities and data base to do increasingly sophisticated research. While much of the research and research tools needed for improving Costa Rica's education systems has not yet been developed, it is impressive that

... conducted for this review most of the issues and

Statistical Overview

Costa Rica is generally considered to have achieved its goals of providing a basic education to all as well as expanding skills training and higher education to levels sufficient to meet the needs of a modern economy. In quantitative terms this appears to be valid. Female enrolment is high (over 50 %) for most levels and types of training. Technical training is expanding rapidly while growth rates in academic streams are moderating or declining.

The remaining quantitative problems appear to be mainly -- (1) large numbers of single-teacher schools and inadequate numbers of trained teachers in rural areas, leading to low instructional quality in the first three cycles, (2) inadequate non-salary instructional inputs at all levels other than university, (3) uneven spatial distribution of secondary academic and technical capacity in the diversified school system, and, (4) excessive growth at the post-secondary level unrelated to professional labor market requirements.

Review of the statistics reveals some unusual patterns. Though they are discussed in more detail below, they should be noted early, as they affect interpretation of Costa Rica's successes and current problems. Among these are,

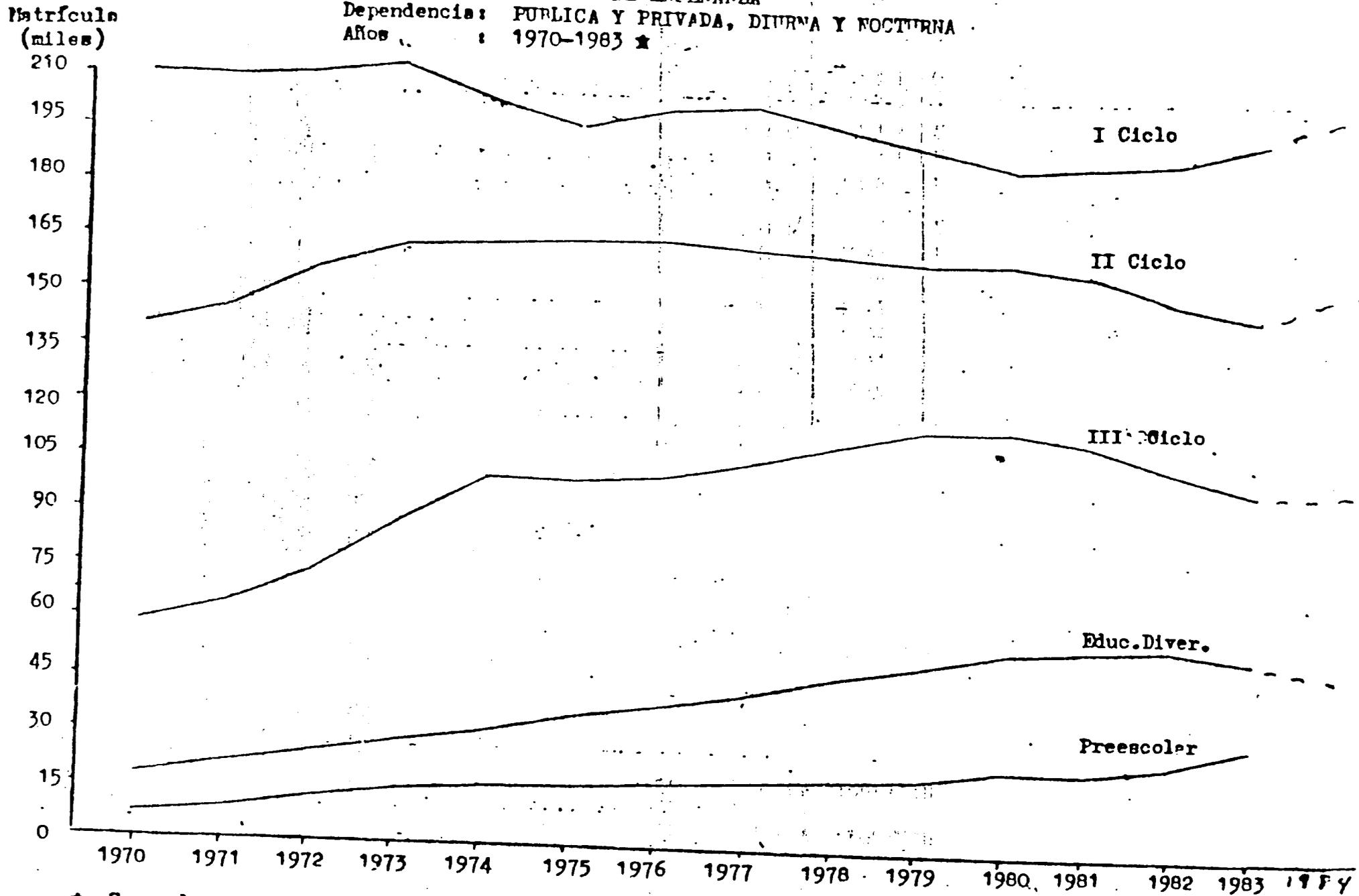
-- Enrolment at the first level has been essentially flat or declining since the early 1970s, though it is beginning to increase again in Cycle I. There were 356,696 students in Cycles I and II in 1970, 361,168 in 1979 and 347,214 in 1983.

-- Virtually all of the growth over the past decade has been in diversified secondary (mainly the technical options) and at the university level. Excluding pre-school and special education programs, total enrolment grew from 536,752 in 1974 to 560,135 in 1983. Of the total growth (I, II, III Cycles, Diversified Secondary and Post-Secondary/University) of 23,383 places, Diversified Secondary grew by 24,163 places and post-secondary by 30,618 places, while the other three cycles declined.

-- Within Diversified Secondary, academic secondary peaked about 1980 and has been declining relatively and absolutely since then, while the technical options have been growing steadily since the early 1970s. Academic Secondary reached 41,526 in 1980 and 41,806 in 1981 but was 37,461 in 1984. Technical enrolment reached 13,964 in 1980 and has continued to grow to 15,764 in 1984. Most of this growth was in the industrial and commercial streams, with agriculture secondary declining.

-- By region, enrolment at the first level declined in all regions except Atlantica between 1974 and 1983. The declines were small in Oriental, Chorotega, Brunca and Norte, but were significant in the Central (from 143,107 to 126,706) and Occidental (from 63,650 to 52,332) Regions. In Cycle III and Diversified Secondary, the increase of 24,163 places was spread proportionately except for Atlantica which expanded almost 80%, from 5,596 to 9,002.

Gráfico 1 : CIFRAS COMPARATIVAS DE MATRICULA INICIAL
 Según : NIVELES DE ENSEÑANZA
 Dependencia: PÚBLICA Y PRIVADA, DIURNA Y NOCTURNA
 Años : 1970-1983 *



* Se excluyeron las cifras correspondientes al año 1978 en I, II y III Ciclos y Educ. Diver. por no disponerse de la información para ciertos sectores privados. Para el año 1979 la cifra que corresponde al nivel de Enseñanza Preescolar fue proyectada por no disponerse de la información.
 Nota: No incluye Escuelas Nocturnas.

Cuadro 1 : TENDENCIA DE LA MATRICULA INICIAL ESCOLAR
Según : NIVELES DE ENSEÑANZA
Dependencia: PUBLICA Y PRIVADA, DIURNA Y NOCTURNA
Periodo : 1970-1983
Cifras : ABSOLUTAS

NIVEL DE ENSEÑANZA	1970	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
TOTAL	<u>455 426</u>	<u>551 560</u>	<u>553 179</u>	<u>576 388</u>	<u>581 252</u>	<u>567 685</u>	<u>604 904</u>	<u>608 648</u>	<u>610 892</u>	<u>601 876</u>	<u>594 966</u>
Escolar	<u>7 483</u>	<u>14 808</u>	<u>15 408</u>	<u>18 704</u>	<u>17 046</u>	<u>19 516</u>	<u>20 200</u>	<u>21 857</u>	<u>23 969</u>	<u>27 455</u>	<u>31 008</u>
I ciclo	<u>356 696</u>	<u>377 111</u>	<u>370 115</u>	<u>375 108</u>	<u>374 622</u>	<u>357 057 a/</u>	<u>361 168</u>	<u>354 789</u>	<u>353 676</u>	<u>346 197</u>	<u>347 214</u>
II ciclo	211 990	206 963	199 030	204 906	206 390	195 283	195 301	190 332	192 035	192 725	198 835
III ciclo	144 706	170 148	171 085	170 202	168 232	161 774	165 867	164 457	161 641	153 472	148 379
IV ciclo y Educa. Profesional	<u>76 573</u>	<u>131 306</u>	<u>134 862</u>	<u>143 638</u>	<u>150 659 b/</u>	<u>147 444 c/</u>	<u>169 302</u>	<u>173 176</u>	<u>171 122</u>	<u>165 649</u>	<u>153 971</u>
V ciclo	58 296	98 960	98 721	102 738	105 758	104 035	116 439	117 565	113 731	106 451	97 462
Educ. Diver.	18 277	32 346	36 141	40 900	44 901	43 409	52 863	55 611	57 391	59 198	56 509
Educ. Superior	<u>12 913</u>	<u>28 335</u>	<u>32 794</u>	<u>36 513</u>	<u>38 925</u>	<u>43 668</u>	<u>51 634</u>	<u>55 593</u>	<u>58 247</u>	<u>58 953</u>	<u>58 942</u>
Universitarias	12 913	28 335	32 794	36 513	38 925	43 668	47 501	50 812	52 984	54 313	54 272
Paras universitarias	-	-	-	N.D.	N.D.	N.D.	4 133	4 781	5 263	4 640	4 670
Educación especial	<u>1 761</u>	N.D.	N.D.	<u>2 429</u>	N.D.	N.D.	<u>2 600</u>	<u>3 233</u>	<u>3 868</u>	<u>3 622</u>	<u>3 831</u>

La matrícula de escuelas nocturnas se dividió por dos para distribuirle por ciclos.

No incluye el sector privado.

No incluye el colegio técnico privado.

No incluye el sector privado.

D. Información no disponible.

Cuadro 11 TASAS BRUTAS DE ESCOLARIZACIÓN 1/

Por : NIVELES DE ENSEÑANZA
 Dependencia : PUBLICA Y PRIVADA, DIURNA
 Años : 1970-1975-1983
 Cifras : PORCENTUALES

NIVEL DE ENSEÑANZA	1970	1975	1983
Preescolar (kindergarden)	13,2	27,5	49,9
I y II ciclos	109,6	106,9	99,5
III ciclo y Educ. Diver.	23,7	36,0	36,4
III ciclo	33,8	51,9	47,9
Educ. Diver.	12,2	18,6	25,1
Educación superior a/ (universitaria y para universitaria)	7,9	15,7	21,7

- a/ Incluye la matrícula diurna y nocturna.
- 1/ Se obtuvo dividiendo la matrícula total del nivel por la población en edad escolar: 5 años preescolar; 6-11 años I-II ciclos; 12-14 años III ciclo; 15-17 Educ. Diver. y 18-22 años Educ. superior.

FUENTE: Datos de población: CELADE; estimaciones y proyecciones de población 1960-2025, octubre 1983.

COHORTES 1977

INDICADORES	COHORTES 1977	
	I y II ciclos (Diurno)	III ciclo y educación Diversificada (Diurna)
- Graduados (al cabo de 9 años)	68,2 %	42,5 %
- Deserción	31,8 %	57,5 %
- Repetición (de uno a tres cursos)	24,1 %	31,5 %
- Promedio de años que permaneció en las aulas cada alumno graduado	7,95	9,24
- Promedio de cursos lectivos invertidos para aprobar un año.	1,33	1,76

Quantitative Indicators

Total enrollment in 1983 was 594,966 -- 31,008 in preschool, 347,214 in the 1st and 2nd Cycles, 153,971 in Cycle III and Diversified Secondary, and, 58,942 in Post-Secondary. Indications are that in 1984 and 1985 the numbers in Cycles I, II and perhaps III have increased slightly while the numbers in Diversified Secondary (particularly academic) and in the universities have fallen, perhaps as much as 10 percent.

The explanations for declines in the upper levels appears related to the economic crisis. Direct costs (tuition fees, etc.) are not a significant problem (though some students are reported to have switched from private secondary to public schools) so much as are, travel and lodging costs, the family need for income, and, uncertainty as to employment following further training.

On the other hand, female enrollment at all levels and enrollment in the secondary technical colleges and the post-secondary technical programs appear to have held steady or increased, particularly in the decentralized programs. It appears that there is still an effective demand for programs which are relatively specialized, short-term (leading to a degree, certificate or other credential in less time than a conventional university program), flexible in scheduling and/or which do not require residence away from home.

Efficiency Indicators

Efficiency indicators appear reasonably good, though there is considerable room for improvement in the grade repetition and dropout rates. The most serious problems appear to be in the first Cycle (see Basic Education section) and in the transition from Cycle II to III and Cycle III to Diversified Secondary. Most of the grade repetition is in grades 2, 3, 5, 8, 10 while the dropout is greatest following grades 1, 5, 7, 8, 10.

Staffing ratios are about 32:1 in Cycles I and II and about 20:1 in Cycle III and Diversified. Typical class size is reported to be frequently over 40, but reliable data is not available for this study. Given the large number of 1-teacher schools in rural areas it may be that many of the largest classes are in urban areas. In any case, it appears that the teacher supply problem is more one of quality (suggesting needs for in-service training and other support) and of distribution, rather than of absolute shortages.

Note: Statistics in this report are drawn mainly from MEP Department of Statistics 53-84 "Expansión y Rendimiento del Sistema Educativo, 1970-1983". Selected tables are included as an Annex.

Coverage is 99.5% of the primary age group (6-11), 36.4% of the Cycle III and Diversified Secondary Age Group (12-17) and 21% of the post-secondary age group (18-22). This is exceptionally high for post-secondary and lower than desirable for Cycle III and Diversified. Approximately 68% complete Cycles I and II. Of those who go on about two-thirds complete Cycle III and about 60% one of the Secondary options. This results in something over 20,000 annually completing a secondary option, most of whom continue for some form of additional professional training.

Female Education Indicators

Female enrollment has been approximately 50% of total enrollment since 1970 and there is no indication of a decline. The main problem appears to be at the university level.

Female enrollment is increasing rapidly in technical fields (exceeding male enrollment) though the distribution by field is uneven with some fields such as engineering, agronomy and management or business administration attracting fewer women. The problem is reported to be more one of self selection of preferred or more socially acceptable professional vocations rather than obstacles to enrollment.

The statistics indicate only 18-20% female enrollment at university, including all programs. Most people interviewed thought this figure to be lower than the actual and it is lower than what would be predicted based on secondary participation rates. A possible distortion may be that the count is biased toward full-time enrollment at the main universities, while relatively more women are participating in UNED or in professional schools (e.g. commercial skills training) or the MEP Colegios Universitarios. Or, it may be that men are more likely to take longer to complete a degree, resulting in larger numbers of part-time male students at the main universities.

In any case, there is a need for further study of the vocational preferences, training options and training obstacles for women -- particularly in those fields preparing for private sector employment, e.g. engineering, business administration, economics. Female participation rates are a key factor in predicting the size and distribution of the skilled workforce and it is important to know more accurately the probable skill profile of the female workforce. Some of the CELADE data on economic participation rates for women appear low and almost certainly underestimate actual participation rates.

Comment on Demographic Trends

The most intriguing issue emerging from a study of the statistics is the flat or declining enrollment at the first level over the last decade. While some hypotheses are suggested, this should be a priority topic for further study and modelling. It may be that a significant demographic pattern has been missed or misinterpreted, or it may be that school participation rates are exaggerated and there are more non-enrolled children than is suggested by official data. In any case, understanding more precisely what has been happening and what is to be expected over the next decade is critical for education planning. If the cohort size or growth rate is indeed smaller than currently believed, it is likely that Costa Rica will experience problems of surplus education capacity in some areas and politically difficult problems of closing or consolidating schools. Three hypotheses are offered,

Hypothesis 1) The size of the primary school age cohort is a function of the sharp drop in infant and child mortality during the 1960s, which led to a rapid but ^{over}in-time increase in the size of the cohort. During the 1970s fertility declined slightly from the levels of the early 1960s, resulting in relatively stable cohort size even though total population grew due to changes in longevity and migration patterns. If this is the case, the economic dependency ratios should be improving, making it incrementally easier for the nation to sustain universal schooling.

Hypothesis 2) There may be greater differences in fertility rates between urban and rural areas and/or in the age composition of the adult population between urban and rural areas. For example, CELADE age-specific population data is consistent with education enrollments for the country as a whole, but predicts larger urban cohorts and declining rural cohorts in the relevant age groups. Cycle I and II enrollment data suggests the opposite.

Hypothesis 3) During this same period there has been significant expansion in Cycle III and at the pre-school level. In addition, there have been a number of changes affecting grade repetition and dropout rates. A possible result is that some of the overage enrollment and even some underage enrollment has been stripped away, leaving the actual enrollment more representative of the intended age cohort. If this is the case, some increase in the actual size of the cohort could have been accommodated with^{out} necessarily an increase in total enrollment. Among the studies needed to check this are age, grade studies.

Note: The demographic patterns may also have implications for workforce projections. The combination of relatively larger age cohorts in rural areas and outside the Central Plateau with the relatively rapid growth in enrollment in the decentralized technical colleges, regional centers and "parasystem" options may mean that the distribution of skilled labor over the next decade may be very different from that assumed by current investment planning.

General Comments on Statistics and Analysis Capacities

1. Most education statistics reviewed appear complete, current and competently analyzed. Data collected in March is available in semi-official publications by May or June.

2. The analytic staff appears competent but thin. This opinion is based partly on interviews but also on evidence in the documents of both very sophisticated analytic methods and arithmetic errors.

3. The education data may be better than some of the census data and labor statistics with which it is correlated. Improvement of education analysis capacities may require improvement of these other data bases.

4. Most analysis is done centrally. This does not lead to the logistic problems found in larger countries, but it may be desirable to encourage partial or parallel analysis at the regional or lower levels to enable administrators to get better feedback on education dynamics in their areas of responsibility.

5. While some data processing/storage/computation equipment may be required (certainly it would be welcomed) the major need appears to be support for additional data gathering, particularly,

-- micro and sample surveys

-- household variables

-- input data for production function studies -- use of classroom time, teacher qualifications, materials available, space and other physical characteristics of the school,

6. There is a general need for improved testing and diagnostic tools at all levels, and for research on their predictive value.

7. The OAS-supported project for research and investigation of education in Central America (PROCAMIE) and the REDUC linkages between MEP departments, PFOCAMIE and other research institutions in Central and Latin America need additional support. They are an important resource for synthesizing the results of research done in other countries. Costa Rica plays an important role as the base for this research and dissemination center. Some of the issues of concern for Costa Rica must be addressed through comparative studies involving other countries -- e. g. participating in the international comparative study (involving some 30 nations) of early childhood interventions coordinated by the International Association for the Evaluation of Education Achievement. PROCAMIE is currently carrying a specialist on early childhood (Marta Porras, recently returned from participant training) without a budget for her and could use support for an additional REDUC liaison position.

8. The College of Education at UCF has established an Institute (IIMEC) through which it conducts education research, focused so far on studies of learning processes. However, it is a possible center to build on, particularly if work on testing is considered.

Basic Education (Cycles I and II)

Three facts emerge from even a preliminary analysis of basic education capacities in Costa Rica. These suggest areas for possible USAID assistance:

- 1) Basic education is receiving far too little funding relative to other levels of education, especially in comparison to the university level, with the result that,
- 2) Budget allocations are going increasingly to cover teacher salary costs, leaving scant resources for the development, production (or purchase) and distribution of basic instructional materials, and,
- 3) The success in spreading basic education into the smaller villages has been accomplished through reliance on 1-teacher schools (also 2- and 3-teacher) to a much greater degree than is found in other countries.

Basic Education, Textbooks

Perhaps the most significant variable in high quality basic education in developing countries is the availability of sufficient quantities of textbooks and other basic instructional materials. These inputs are essential complements to the availability of trained teachers. In fact, recent research has shown that increasing textbook availability generally contributes more to improving quality (i.e. instructional effectiveness) than does any other single factor (e.g., increased teacher training, reduced student:teacher ratios, longer periods of schooling). There is a clear need for primary texts and the USAID, MEP and Cámara del Libro project providing free textbooks to all private as well as public primary pupils is a constructive response to this urgent need.

Multiple Grade, One Classroom Rural Schools

The issues of equity and quality in basic education are most evident in the "escuelas unidocentes" or UNICOs -- one-teacher, usually one-room, schools containing multiple grades. Country-wide, 44.9% of the Cycle I and II schools are the 1-teacher model and perhaps 20-25 additional have 2 or 3 teachers to cover the six grades. The number of children attending these schools is relatively small -- 11.9% of total Cycle I and II enrollment in UNICOs and perhaps that many again in other schools with less than one teacher per grade.

Even were these teachers well qualified by Costa Rican standards (they are reported to be among the least well trained), they are not trained in classroom management techniques for heterogenous groups nor do they have supplementary texts and materials for those children who must accomplish much of their learning through self-study and unsupervised practice.

These schools are an important element in Costa Rica's success in achieving universal enrolment, as these children are in the least densely populated areas and were previously those most likely to be missed or to drop out due to the distance they had to travel to an acceptable school. While they are part of the solution to the equity problem, they are also a problem in several respects:

-- they are a disproportionate number of the schools, though they enroll only a minor fraction of the children. This places a larger burden on the administrators and logistic systems.

-- a reported result is that the older children get much less personalized attention than the younger children.

-- the materials available for instruction are not appropriate for self-study or unsupervised activity.

-- as there is only one teacher, any time the teacher must travel to the district center (e.g. to obtain salary) or for any other reason must be absent the class is unsupervised.

Several things could be done by AID to help alleviate these problems,

a) Provide short-term technical assistance (through the Colleges of Education or through the Regional Administrators) for the design of in-service training programs to improve subject matter mastery and classroom management techniques for multi-grade or heterogenous instruction situations. For example, U.S. educators and specialists from other countries might be invited to Costa Rica to conduct intensive workshops/seminars during the school vacations.

b) Provide scholarships to university teacher trainers, regional supervisors, and local administrators to study and observe similar programs abroad. Rather than long-term degree programs, priority should be given to relatively short-term travel-study opportunities in the U.S. and in other countries with some experience with this type of primary education.

c) Include in any further program of textbook or materials supply to Cycles I and II a significant component of supplementary materials and materials appropriate for self-study and small group study.

Special Education

Approximately 16% of the school population is estimated to have some kind of learning problem. Mental retardation accounts for 8% (note, this seems high, how is retardation defined?); another 2% are deaf or hearing impaired, about 6% have other disabilities ranging from vision to malnutrition, lack of stimulation in the home and other factors. Though the total of children with learning disabilities is estimated at 40,000, only 20% of these have been diagnosed and are receiving services.

There is little vocational training or special education services outside the urban areas and there is little training for teachers either in diagnostic skills or in the education of children with handicaps. Where teacher training is provided it is relatively narrow and specialized rather than the broad skills necessary to cope with classes containing children with different problems.

As Cycle I education is now available to essentially all children, it is likely that a significant part of the grade repetition and eventual dropout observed throughout the country, but particularly in rural areas and particularly in the 1st 2 years, is due to undiagnosed learning problems and/or the lack of an effective response to these problems.

Peace Corps has been working in Special Education for almost 12 years and has plans to program additional volunteers in this area. Reginaldo Robinson, APCD, reports a general frustration with inadequate support at all levels, including basic office materials and supplies. He provided the following suggestions, which appear appropriate for USAID consideration,

-- provide small grants to enable teachers in rural areas who have an interest in special education to obtain additional training in Costa Rica.

-- sponsor 2 or 3 scholarships annually to enable teachers to participate in training programs such as IPHE "Instituto Panameño de Rehabilitación Especial". Costs for the IPHE program are \$5,100 plus transport for a one-year program.

-- provide some funding for consumable supplies (paper, office materials), instructional materials, reference materials.

A related program discussed with Peace Corps was the expansion of their proposed program working with Nutritional Education Centers to have a greater emphasis on early childhood development and maternal training on child nurturing and cognitive stimulation in the pre-school years. Note, PPC/PDPR and LAC/DR are jointly supporting an Inter-agency Consultative Group on early childhood development, through which advisory services, research or other support can be arranged.

USAID Programming Options for Basic Education

AID cannot influence the distribution of funds within basic education, nor should it become involved directly with major areas of the program (e.g., curriculum development, new school construction, equipment and furniture, pre- and in-service staff training). Funds and time plus management and policy constraints make that clear. Several other areas, however, offer opportunities for USAID to contribute constructively to the improvement of basic education:

1) Additional production of textbooks (see discussion p. 22), perhaps extending the program to include non-text consumable materials and supplementary text materials for teachers and students in UNICO schools.

2) Support for school refurbishment (not new building), concentrating on the UNICO schools, perhaps using the SDF mechanism and cooperation with Peace Corps. Note: In any support for school building or refurbishment, USAID should ensure that there is adequate provision for the storage of texts and other materials.

3) There appear to be significant linkages between the needs for special education programs and the grade repetition and dropout patterns in the 1st Cycle. USAID might look for ways to support improved diagnostic work (e.g. through participant training of specialists, through local research on learning handicaps by IIMEC or CINDE, through support for in-service training of teachers by the Special Education staff including Peace Corps). Another possibility is to address this through pre-school interventions, perhaps expanding the functions of the Nutrition Education Centers (NECs) through a cooperative program with Peace Corps.

4) A major variable affecting projections of needs for the Cycle I and II programs is the uncertainty of demographic trends. The enrolments have been relatively flat or declining for the last decade, but appear to be trending up again in the early years. USAID might support sample household surveys or other research on the age profile and size of the primary school cohorts. PPC/EDPR has supported a computer modelling project through the Futures Group to develop tools for projecting growth and distribution patterns over the next 10-15 years. These are available on request and a Futures Group team could be invited to work with MEP planners and statisticians to adapt the software and train analysts in its use (requiring about a 2-week TDY for two people).

Technical Training

Technical training is provided through some 78 secondary technical schools (established with substantial assistance from IDB in the 1970s), through INA and through a wide array of private and commercial training institutions of varying quality. CINDE (PROCAP) is attempting to coordinate and stimulate training related to priority export sectors.

Other programs providing relevant training are in the Universities, esp. the Institute of Technology, the Regional Centers and the UNED programs. Several people interviewed mentioned the need to extend these programs further, offering more short-course specialised training and 2-year degrees or certificates, perhaps moving toward the community college model with cooperative education and associate degree programs. However, due to time constraints, these programs were not reviewed in any detail for this study.

General requirements at the secondary technical level are:

- equipment at all levels, particularly for "high end" technologies (such as electronics, engineering, computers and instrumentation),
- in-service staff training in technical content and in instructional methods,
- supplementary materials and demonstration equipment relevant to new industries and technologies,
- technical assistance with the diagnosis of private sector needs and the specification of skills required for specific occupations,
- with respect to the last two items, closer linkages with the private sector and more active participation by the private sector in providing guidance on requirements and meaningful support for new technical training initiatives.

INA

INA appears well established with an appropriate program. It has ample internal financial and human resources and does not require further USAID funding assistance to improve its facilities or to develop further programs. USAID's posture toward INA probably should be one of seeking ways to put its resources to effective use, rather than one of further developing the institution. For example,

1. INA can cooperate with the secondary technical colleges and the industrial cámaras to conduct diagnostic studies leading to better specification of skills for specific equipment or production processes. This will assist the technical colleges, INA and other training programs to develop appropriate manuals, curricula and training programs to meet specific needs. This needs to be done both for relatively mundane skills to be promoted through in-service skills training and for certificated skills to be provided through more formal training programs.

2. USAID technical assistance or training could be used to improve INA's communication capacity. Many vocational or technical subjects can be prepared on videotapes for continuous and wider application in the field and/or for self-study. Other materials might be prepared for use in technical training programs (INA, technical colleges, even public TV) for the purpose of helping people to visualize fields of prospective employment and the realities of those occupations. This may be particularly useful as Costa Rica attempts to develop industry in new sectors and to stimulate training in new fields.

3. The "Talleres Publicos de Capacitacion y Produccion" centers (previously assisted by USAID, appear popular and responsive to a wide range of informal sector economic skills training needs. USAID should review the talleres programs looking for:

- needs for additional centers or additional skill areas, INA does not appear to need help with the establishment of additional centers but there may be useful roles for USAID in the provision of equipment or other inputs,

- possibilities for providing seed money for production coops or individual entrepreneurs for informal sector small business and self-employment,

- selected additional services to enable target groups to participate more effectively, e.g. it appears that in some areas some form of child care is needed to enable women to take advantage of skills training or production possibilities during the day,

A suggestion for further exploration is that an analogous formal sector model may be needed for potential entrepreneurs in small and medium scale enterprises, i.e. a center to which a small businessman with a partial design or half-baked idea can come for technical help and training in developing a business and production plan.

CINDE

In reviewing the CINDE project, attention was focussed mainly on the PROCAP division. PROCAP's objective is to reinforce the human resources essential to the development of Costa Rican private enterprise. The project, which seems well-conceived and adequately funded by USAID, attempts to achieve its objective through:

- scholarships for university professors,

- services to the national banking system,

- scholarships to needy undergraduate students, and,

- training programs for managers, middle level executives and expert technicians.

According to the PROCAP director, Ing. Clara Zomer, the major unmet need for private sector training is short-term practical courses for export-related specialized industries (e.g. ornamental horticulture and flower exports, leather crafts and shoes, perhaps computer software). For example, CINDE/PROCAP has initiated a program of short-courses in electronics engineering and production, using specialists from U.S. industry. An evaluation of this is needed to determine whether it can be a useful model for other subsectors.

Other Industrial Training

The President of the Cámara de Industrias, Ing. Jorge Woodbridge, indicated that a more aggressive effort was needed than that provided by CINDE. He was interested in something more along the lines of the Japanese, Korean or Taiwanese "productivity centers", oriented more toward assisting Costa Rican industrialists to learn about export market factors (technical specifications, packaging, purchasing and distribution channels, etc.) rather than to the technical skills required for production. He mentioned some useful assistance from the Irish Development Association in identifying potential export markets and the skill requirements needed to produce for such markets. Among the areas mentioned were, computer software, electronics, textiles, hardware and appliances, shoes and leather goods, toys. He thought there was little room for local publishing industry, given market presence of Spanish publishers.

The Cámara de Industrias is exploring a relationship with INA to assist the various industrial camaras with the diagnosis of specific skill requirements -- for example in leathersgoods, textiles, tailoring, food processing. The individual associations cannot do their own training without some help in specifying skills and developing highly tailored training programs. Much of the training needed may be short-course in-service training for people with less than secondary education and who are already employed.

USAID Program Options

1) Peace Corps is interested in placing additional volunteers at secondary technical schools, with part of their responsibilities being the stimulation of production cooperatives. USAID may wish to consider a small revolving loan fund for such schools to provide seed money for technical students wishing to start such cooperatives.

2) Part of the key to improving private sector training and/or to enabling public sector training institutions to be more responsive to private sector requirements is to create a line of communication between the trainers and the employers and to ensure that they speak the same language and understand the differences in the ways each diagnoses and specifies training needs. Among the activities USAID might consider are,

-- evaluate the PROCAP short-course for electronics technicians and producers. Can this be done for other sub-sectors -- e.g. food processing, toy manufacture, furniture? Or, are there factors unique to the electronics sub-sector which enable cooperation from U.S. firms to be obtained more readily?

-- look for ways to encourage CINDE/PROCAP and INA to provide technical assistance on the diagnosis of skill requirements to the various industrial associations. The keys to this being effective appear to be two,

-- aggressive action on the part of the associations to reach out and demand such assistance. This is an organizational and motivational task as much as a technical task. Until the associations actively seek such assistance, there is little that the training organizations can do and the training institutions are left to guess at what the employers want and need.

-- provide short-term training, possibly pairing a specialist from one of the training institutions or the technical education division of MEP with one or more key persons selected by the association, to become more familiar with the skill specification and classification methodologies used in U.S. industry. Training programs and study/visit programs could be arranged through the Dept. of Labor ILAB program or through a professional association such as Society for Training and Development (which represents industrial training professionals) or through the Ohio State Center for Research on Vocational Education or through any number of training institutions (an excellent private model is the William Hood Dunwoody Institute in Minneapolis).

Other suggestions,

-- some form of industrial extension may be useful. CINDE would appear to be the logical place for such an initiative (the PROCAP papers anticipate it) but there does not seem to be anything under active consideration.

-- videotape cassettes may be used cost-effectively to provide investors with a better idea of what they have to work with in Costa Rica and to enable Costa Rican industrialists to visualize more precisely what kind of markets, marketing channels, production and packaging specifications, etc. exist.

-- at present attempts to identify potential export markets appear to be driven by lists of potential new product lines to fill perceived niches in international markets. The lack of fit with available skilled personnel is treated as a problem to be solved by the training institutions. An alternative approach is to start with categories of surplus skills and look for economic applications. For example, rather than bemoaning excessive supply of dentists and dental technicians one might explore the manufacture of dental supplies or, if a surplus of people with academic secondary emerges, one might explore service industries, e.g. data-processing, using telecommunications for export. (Note, the examples are only illustrative, the point suggested is to explore industrial potentials based on categories of surplus skills, underutilized human capital)

Universities/Tertiary Training

It was not possible in the time available to do much more than collect opinions about the state of higher education in Costa Rica and the relevance of this training to the country's needs. Most people interviewed agreed with a number of generalized criticisms of universities and other post-secondary training in Costa Rica. Among the generalizations are,

-- that they are expensive and absorb a disproportionate amount of education funds. Figures from the Ministry of Finance are that the University allocation is about 2.7 billion colones, while primary receives about 2.5 billion colones and secondary 1.5 billion colones (1.05 academic, .45 technical). The main difficulty is that the university allocation is fixed by law as 30 percent of the income tax. Thus, it is earmarked before the rest of the budget is allocated, additional funding is then added in the regular budget.

-- that they have grown substantially faster than has the employment capacity of the economy -- from about 13,000 in 1970 to about 59,000 in 1983 and about 55,000 this year. Note, while all agreed that the growth had led to over expansion in some areas (e.g. dentistry, law), there does not appear to be significant graduate unemployment even in the current economic climate. Whether the university capacity is in excess of the demands of a resurgent economy remains to be seen.

-- that they have tended to be highly politicized in most departments, both ideologically in the case of some departments and schools and in terms of academic politics in almost all cases. Few disagreed that this was a serious problem over the last decade, but some felt this had moderated substantially over the past few years. As for academic politics, a comment in one interview was "we hold an election for everything".

-- that the rapid growth in enrollment had led to both a decline in admission standards and to hiring of marginally qualified faculty in some departments. This appears to have been the case over the last decade, but the current situation and the prospects for the immediate future are less clear. There has been some decline in enrollment in the last two years, and there appears to be extensive review of department priorities and staffing patterns.

There was less agreement on the quality and technical relevance of individual programs. In general, it appears that most of the technical departments (particularly engineering) are well regarded and that the social science faculties are very uneven.

Almost every interview turned to discussion of the importance of less academic, more specialized and shorter courses. There was considerable interest in building on the regional centers and the UNED programs (but not the Colegios Universitarios, which may be redundant), moving toward a community college model with specialized non-degree and associate degree training programs.

Options for USAID

The appropriate posture for USAID appears to be to treat the universities as a resource to be supported and used selectively, rather than as a system to be expanded or developed further (excepting perhaps the community college possibilities). While acknowledging that quality, relevance and other factors are uneven, there clearly are selected departments with well-trained but underutilized faculty and technical facilities which can provide important technical support for development initiatives.

One of the most effective ways to encourage change in desired directions is to ensure that the other public and private development organizations are making effective demands on the universities. Means to do this include commissioned research and contracted technical services (e.g. materials testing and prototype designs -- there are some examples in the metalworking industry), use of universities for staff training and involvement of university faculty in design and assessment teams. A general suggestion is that USAID consider pairing participant trainees for short-course training in selected fields, with 1 or more drawn from universities and one or more from industry. Anything that can be done to build lines of communication would appear to be constructive.

Other options include:

-- TA to develop improved mechanisms for external funding of university-based research and commissioned or contracted project activities. The mechanisms at present appear excessively time-consuming, burdensome and subject to arbitrary academic politics. Exposure to the university research foundation models in the U.S. may be useful. Note, this problem seems sufficiently key to more effectively involving the universities in R&D relevant to private sector requirements that USAID may wish to consider it as a "policy dialogue" agenda item.

-- equipment for engineering and other technical faculties

-- TA and/or short-term participant training to examine community or junior college models and types. If this is done, it should include state systems of such colleges and the administrative and coordinating mechanisms for such systems. It might also include some of the university extension systems such as Empire State College (the Open University of the SUNY system).

-- Evaluate the CONICIT experience and the options for working further through the Institute of Technology or other institutions on issues of science and technology transfer.

-- evaluate the UNED and regional center decentralized or "open university" training programs, looking for ways to, a) support materials development, b) use radio, TV or other media, and, c) stimulate more short-course skill-specific training.

Instructional Materials

USAID should not become involved in curriculum development or materials design. Rather, it should take a position that as and when Costa Rican planners and decision makers reach agreement on what is needed, USAID is prepared to assist with the costs of production and with technical assistance on distribution logistics.

Options for AID consideration include:

a) Continuing the production of textbooks for Cycles I and II, to provide a stockpile for replacement needs when the current stocks are depleted. Future contributions should include some costs to parents. While it may not be possible to recover a sufficient part of the production costs to reduce significantly the financial burden to MEP or to create a revolving fund for additional production, assigning a price to the texts and other materials to be distributed may be critical to the objective of inducing the private sector to play a role in distribution.

b) Extending the textbook program into the secondary preparatory system (Cycle III), again assigning at least a nominal price to the materials. Before a decision is reached on whether to assist at this level, a needs assessment should be conducted to determine the quantities and types of materials needed, issues to be resolved, and organizational and management mechanisms required to develop a more efficient distribution system. USAID could provide short-term technical assistance to plan and conduct this needs assessment.

c) Extending the program into the Comprehensive Secondary Cycle, taking the same position regarding financing and needs assessment as discussed above. Both the academic and the technical schools need improved mathematics, science and English language materials, as well as resource and supplementary materials for their libraries. The industrial, commercial and agricultural technical colleges (in approximately that order of priority for USAID) also need materials for selected technical subjects.

In developing or selecting materials for technical subjects, it is essential that there be active involvement of prospective employers, perhaps through the various business and industrial camaras. While the industrialists and other employers appear currently dissatisfied with the quality and relevance of much of the technical training, there is little specificity to the complaints. It is probable that the employers themselves and their associations do not have a sufficiently specific idea of precisely which skills, technologies and job-related attitudes or behaviors they really need. Thus, close involvement of the employers in the selection of materials on specific technologies may be an essential part of their own diagnostic needs assessments as well as essential to the selection of relevant materials for the colleges. In addition, such involvement may lead to greater cooperation in the donation of relevant demonstration equipment. USAID can play an important role by encouraging prospective investors to assist with relevant materials in advance of actual investments or business expansion.

d) The team had insufficient time to examine the needs or options for USAID participation in the production or distribution of texts or other materials for the post-secondary and University levels. While several interviewees commented on the need for assistance with publication of locally generated research, for assistance with specialized libraries (particularly in the regional centers) and for equipment in the technical institutes, no specific recommendations are offered for USAID consideration at this time. It is likely that further analysis will show a) there is significant opportunity for private sector marketing of text materials to the post-secondary system, b) there is potential for increased local printing of texts, possibly as a minor export to other countries in the LAC region, and c) the problem is best addressed as an economic marketing or investment opportunity rather than as an educational inputs need. This subject might be examined further as part of planning for a possible regional RTAC II.

Support for Research and Analysis

Costa Rica has an excellent start toward establishing the basic infrastructure (MEP departments, competent staff and statistical base, expertise in Colleges of education and research institutes, coordinating councils such as CONARE, regional mechanisms such as PROCAMIE/REDUC) needed for undertaking the analysis and planning to improve the quality, efficiency and relevance of its education and training systems. The need is not so much for capacity building or raising the consciousness or technical sophistication of Costa Rican educators and analysts about the problems of their systems. Rather, it is to facilitate their exposure to additional analytic tools and institutional models and to provide the "seed monies" necessary to break the inertia among institutions with substantial intellectual capital but inadequate finance and unclear mandates.

What appears most needed is (1) some technical assistance in articulating the precise issues needing to be addressed, (2) some short-course participant training to enable key specialists and analysts to examine relevant models in other countries, (3) some technical assistance to facilitate the transfer of selected analytic tools and (4) selected allocation of relatively small amounts of finance to facilitate coordination and to enable sample surveys and pilot applications of new approaches to be attempted. Examples follow:

1. Short-term technical assistance and/or participant training to examine options for the UNICO schools -- peer teaching, paraprofessional teacher aides, self-instructional and small-group activity materials design. S&T/ED may be able to facilitate this through one of the centrally-funded projects (e.g. Instructional Technology and Applications).

2. Short-term technical assistance to examine ways around key management bottlenecks regarding the delivery and use of basic education inputs. For example, the logistics of materials distribution and storage or the options for reducing the frequency with which teachers must travel to administrative centers to collect salary or other official business, leaving classes unattended.

3. Short-term technical assistance to present and adapt to Costa Rican application financial management tools such as the financial management software developed by Kurt Moses at AED, which enables planners to project the financial implications of changes in education policy or management practices (e.g. changes in teacher/student ratios).

4. Short-term technical assistance to present and adapt to Costa Rican application the demographic projection models linked to education variables, such as the Education cohort simulation model and software developed for PPC/PDPR by the Futures Group

5. Participant Training and/or short-term TA to explore the possibilities of gradually moving the regional centers and Collegios Universitarios toward the Community College model.

6. Short-term TA and/or participant training to examine the technical issues and systems management implications of improving diagnostic, aptitude and achievement assessment tools at all levels. World Bank is reported to be discussing assistance to develop a national assessment or achievement testing system. USAID is advised to proceed cautiously with any direct support for such a system. It requires a long-term effort and there is a tendency for achievement tests intended to monitor the effectiveness of instruction to be used eventually for selection and rationing of education opportunities. While such selection and rationing tools may or may not be needed, their introduction is politically sensitive.

However, USAID can play a useful role in helping Costa Rican educators to get more familiar with testing systems, the techniques involved in their design and development, and the financial and administrative implications of implementing such systems on a national scale. One of the U/S. Regional Education Labs would be an excellent resource, as would Education Testing Service (ETS) or the National Center for Education Statistics (NCES).

PERSONS AND ORGANIZATIONS VISITED

William ALTAMIRANO	Director	Colegio Vocacional "Monseñor Sanabria"
Guillermo ARAYA	Director	Ministry of Education, Curriculum Division
Rosalía BRAVO	Director	Ministry of Hacienda, Budget Office
Fernando CASTRO	Dean	Univ. of Costa Rica, College of Education
Odette ESCOE	Director	Colegio Metodista
César FERNANDEZ	Director	Ministry of Education, Academic Education
Juan ESQUIVEL	Director	University of Costa Rica, IIMEC
Ronald GARCIA	Head	Instituto Nacional de Aprendizaje, External Cooperation Dept.
Angel INTERIANO	Secretary General	INCAE
Manuel LOPEZ-TRIGO	Director	Sistema Nacional de Radio Y TV (SINART)
Rodolfo LONGAN	Manager	Instituto Nacional de Aprendizaje (INA)
José MASIS	Director	Oficina para la Planificación de la Educación Superior (OPES)
Marta MUÑOZ	Director	Ministry of Education, Dept. of International Affairs
Maria PANIAGUA	Director	Ministry of Education (CEMIE/OAS)
Rodolfo PERALTA Marta PORRAS	Budget Officer Researcher	Ministry of Hacienda CEMIE
Carlos SÁENZ	Officer	Ministry of Education Statistics Dept.
Saúl WEISLEDER	Advisor to the Minister	Ministry of Exports
Jorge WOODBRIDGE	President	Cámara de Industrias
Eduardo YGLESIAS	Director	"Escuela Para Todos"
Clara ZOMER	Manager	CINDE/PROCAP

The Costa Rica formal education system has the following structure:

1. Initial or Preschool Education

This is formal in organization, but not mandatory. Preschool education is for children 5 to 6 years of age. In 1983, the total national enrollment was 31,008.

2. General Basic Education

General basic education includes 3 mandatory study cycles for children 7 to 15 years of age, each lasting three years. In 1983, 444,676 students were enrolled (Cycles I, II, and III), of which 95% attended state schools. Of all those entering the general basic education system, 80% continue to Cycle II, and of these 90% go through the sixth year. Approximately half the students complete Cycle III, and of this number, 75% continue to Cycle IV studies.

3. Diversified Cycle

Cycle IV, also three years in length, includes academic studies equivalent to those that used to be given in the last three years of traditional secondary education (Bachillerato) and technical studies in health, commerce, industry and agriculture. In 1984, the enrollment in this cycle was 53,309 students, of whom 15,764 were in agricultural, industrial, and commercial courses or family and social education studies.

4. Higher Education

Formal higher education is given at the Universidad de Costa Rica, the Universidad Nacional, Instituto Tecnológico, Universidad Estatal a Distancia, and the Universidad Autónoma de Centro América. The total enrollment in the higher education system in 1984 was about 55,000 students.

The Parasystem (or Nonformal Education) has the following structure?

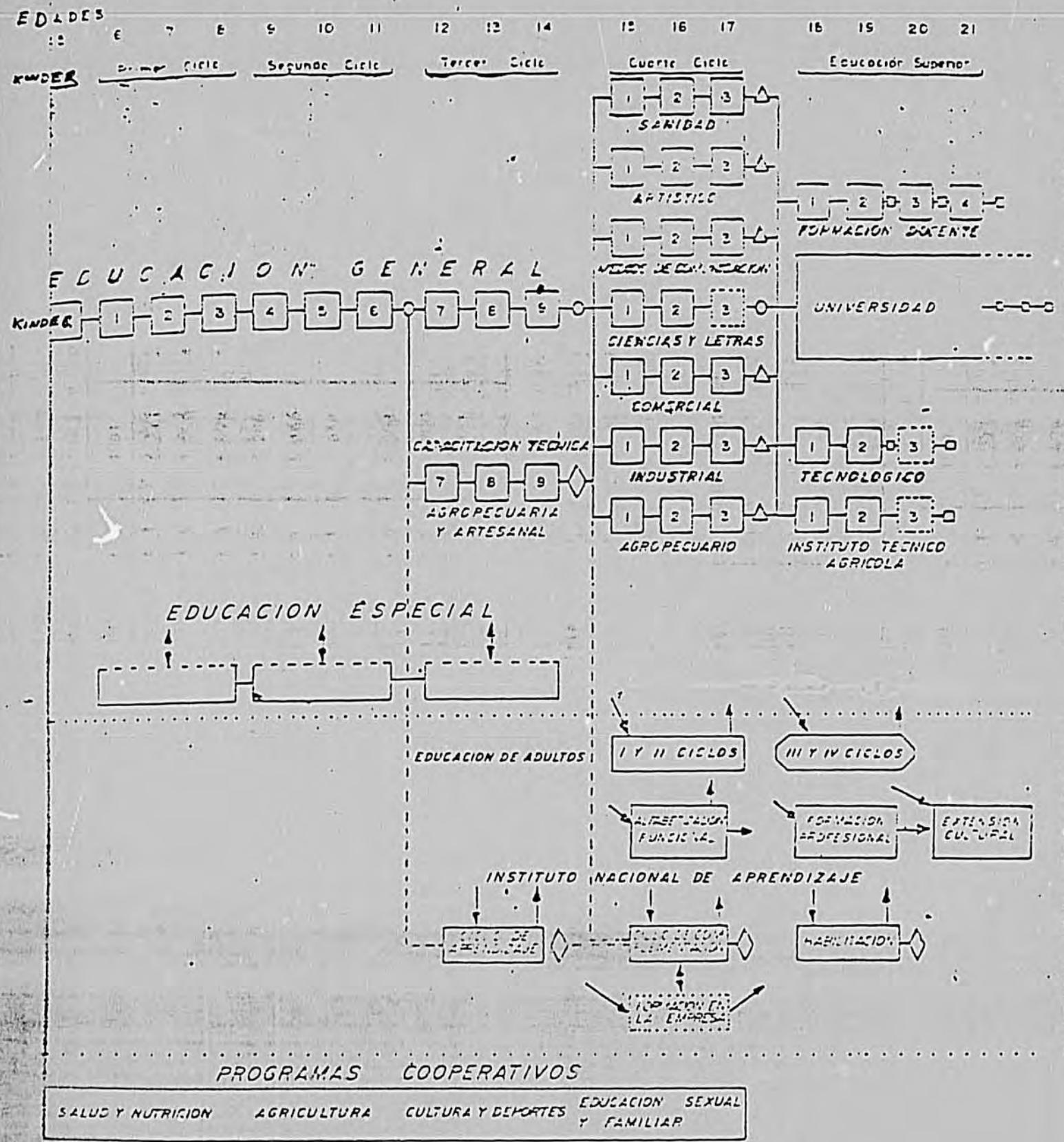
1. Public Middle-Level Parasystem

This system is conducted in rural and urban multiple-use centers. It includes the free school system (adult secondary education), the adult literacy project, basic music studies and industrial apprenticeship, at the Instituto Nacional de Aprendizaje.

2, Post-Secondary level Parasystem

This system consists of institutions whose entrance requirement is a certificate of completion of secondary studies. Virtually all of these are private schools, except the Escuela Tecnica Agricola de Santa Clara. Most of the educational choices they offer are in the field of commerce (e.g., secretarial, typing, filing, and bookkeeping).

COSTA RICA PLAN DE DESARROLLO EDUCATIVO



SISTEMA FORMAL UNIVERSITARIO

- LEGENDA:**
- CERTIFICADOS ACADÉMICOS (Varios niveles)
 - CERTIFICADOS DE APTITUD PROFESIONAL
 - △ DIPLOMAS PROFESIONALES DE NIVEL MEDIO
 - ◻ GRADOS PROFESIONALES

Best Available Document

Cuadro 4 : TENDENCIA DE LA MATRICULA INICIAL DE EDUCACION DIVERSIFICADA
 Según : RAMAS Y MODALIDADES DE ENSEÑANZA
 Dependencia: PÚBLICO Y PRIVADO, DIURNO Y NOCTURNO
 Cifras : ABSOLUTAS
 Período : 1970-1983

RAMA Y MODALIDAD	1970	1975	1979	1980	1981	1982	1983	1984
TOTAL	18 194	36 141	52 869	55 611	57 391	59 198	56 509	53,309
Académico	15 240	28 995	39 226	41 526	41 806	43 161 ^{71.9}	40 742 ^{2.6}	37,461 ^{70.3}
Técnico	2 904	7 090	13 535	13 964	15 474	15 933 ^{26.9}	15 661 ^{27.9}	15,720 ²⁶
Industrial	1 547	4 208 ^{a/}	2 671	2 980	3 286	3 406	4 036	3,495
Comercial	719	b/	4 253	4 291	5 166	5 064	4 885	5,923
Agropecuaria	496	1 775	4 010	4 511	3 838	3 952	3 387	3,104
Educ. Familiar y Social	142	1 107	2 521	2 076	2 984	3 184	2 980	2,680
Artisanal	-	-	80	106	200	327	373	333
Artístico	50	56	108	121	111	104 ²	106	89 ¹⁷

a/ Incluye los datos de la modalidad comercial

b/ La modalidad comercial aparece incluida en la Industrial.

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ANUEX 2
-2-

Cuadro 8 : TENDENCIA DE LA DISTRIBUCIÓN DE LA MATRICULA INICIAL
 Por : SEXO
 Según : NIVEL Y RAMA DE ENSEÑANZA
 Dependencia: PÚBLICA, PRIVADA Y SEMI PÚBLICA
 Horario : DIURNO Y NOCTURNO
 Cifras : ABSOLUTAS Y RELATIVAS
 Años : 1974, 1979, y 1983

NIVEL Y RAMA	1974			1979			1983	
	Total	Mujeres	%	Total	Mujeres	%	Total	Mujer
TOTAL 1/	524 293	259 916	49,6	549 222	270 966	49,3	594 966	263 2
Preescolar	14 808	7 510	50,7	18 900	8 721	46,1	31 008	15 3
I y II ciclos	377 111	183 449	48,6	361 025	175 259	48,5	347 214	167 9
III ciclo y educ. diver.	132 374	68 957	52,1	169 302	86 986	51,4	153 971	78 4
Académica	114 816	61 178	53,3	138 379	71 952	52,0	126 287	64 2
Técnica	17 324	7 660	44,2	30 552	15 034	49,2	27 369	13 9
Artística	234	119	50,9	371	213	57,4	315	
Educación superior	28 335	N.D.	N.D.	51 243	N.D.	N.D.	58 942	10
Universitaria	28 335	N.D.	N.D.	47 267	N.D.	N.D.	54 272	10
Para universitaria	-	N.D.	N.D.	3 976	N.D.	N.D.	4 670	N.1
Educación especial	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	3 831	1

1/ No incluye la Educación superior.

a/ Incluye la Educación especial y no incluye la Educación Superior.

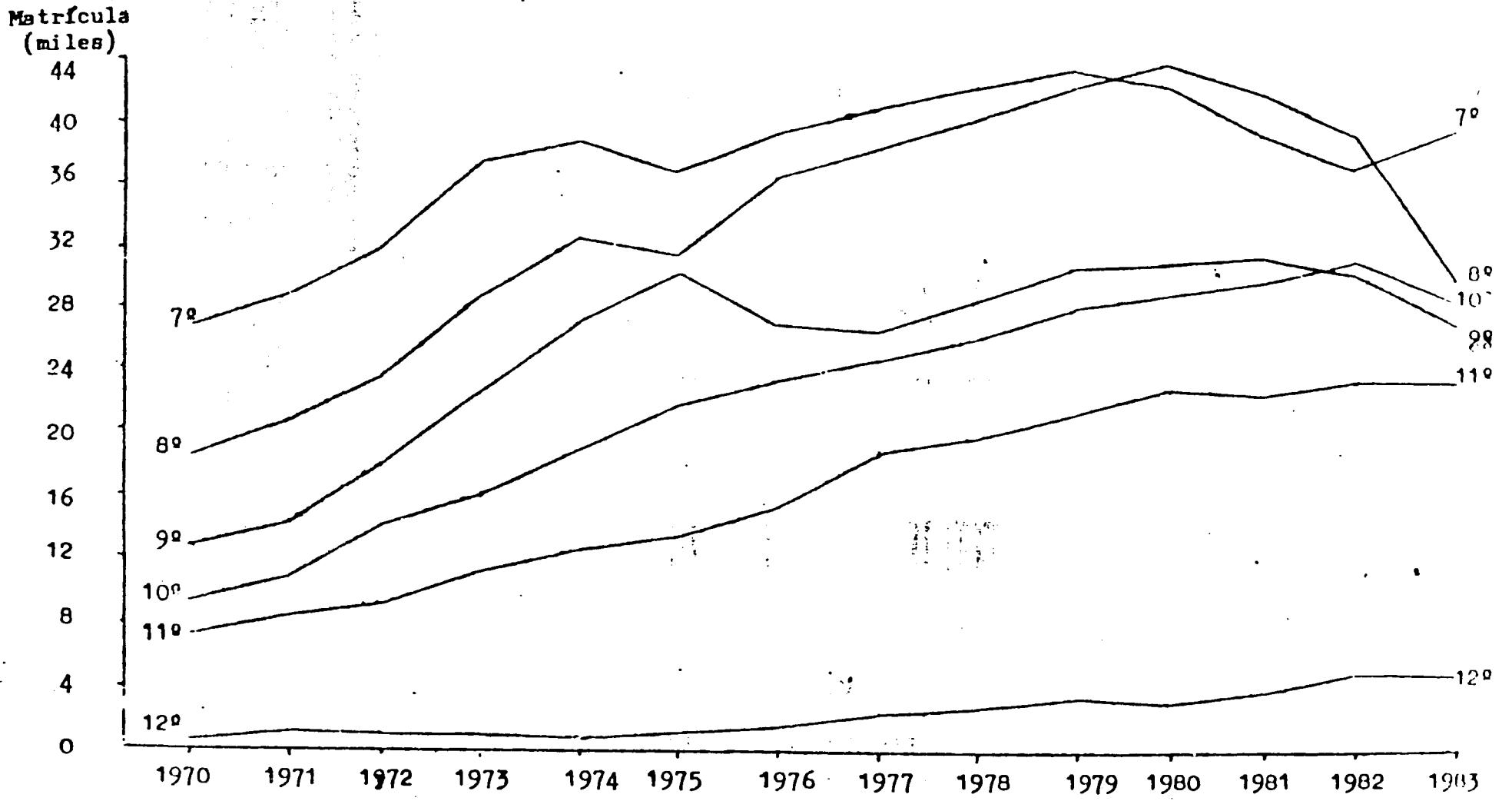
b/ Incluye el C.T.P. Nocturno de Alajuela.

c/ Incluye únicamente: ITCR, UNA, UNED. Dato proporcionado por CNARE correspondiente al año 19

N.D.: No disponible.

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**Gráfico 4 : CRECIMIENTO DE LA MATRÍCULA INICIAL EN
III CICLO Y EDUCACION DIVERSIFICADA**
Según : AÑO CURSADO
Dependencia: PÚBLICA Y PRIVADA, DIURNA Y NOCTURNA
Años : 1970-1983 *

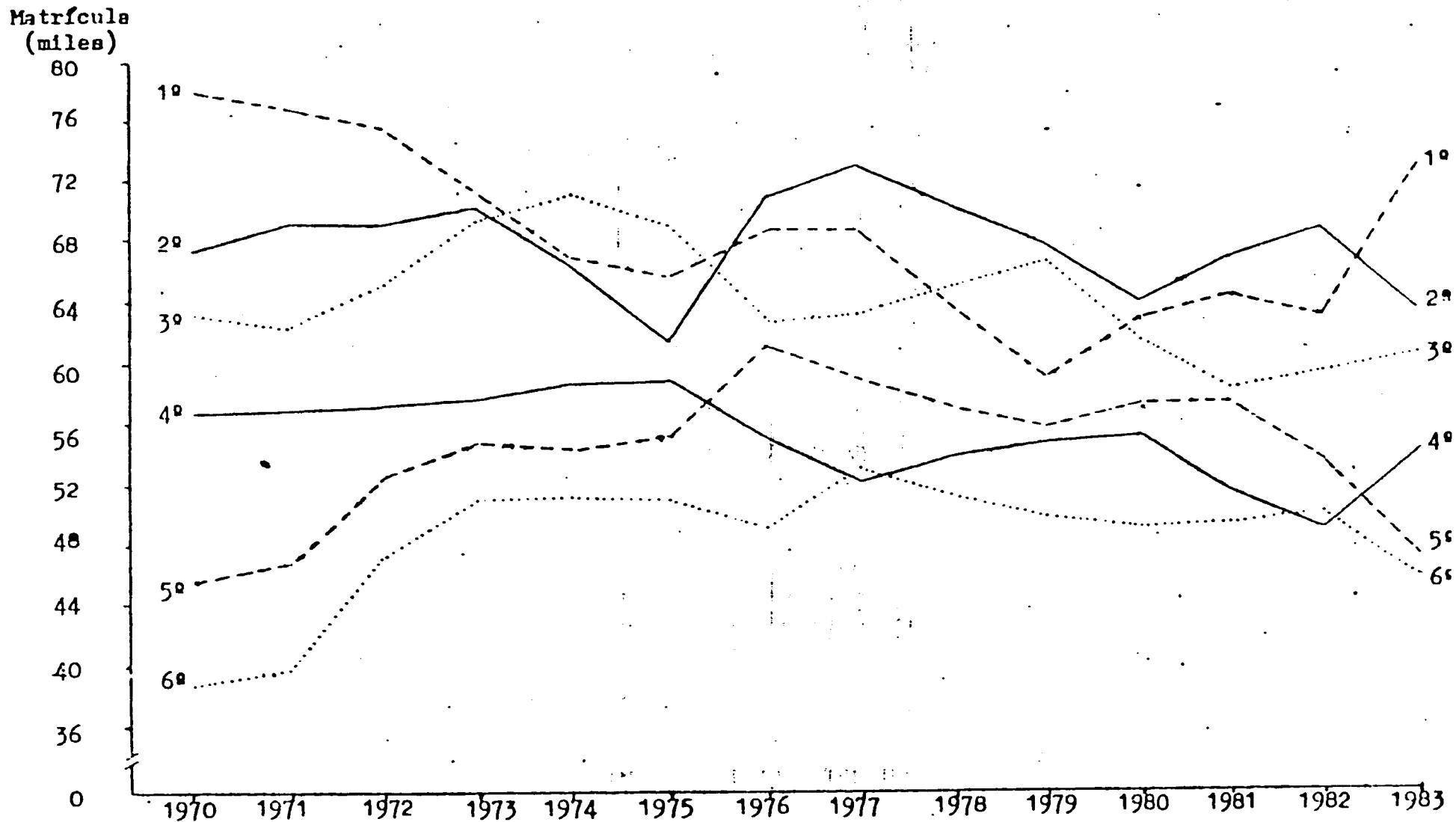


* Para el año 1978 no se dispone de información sobre los colegios académicos privados diurnos, por lo que no se incluyeron las cifras correspondientes.

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Gráfico 3 : CRECIMIENTO DE LA MATRICULA INICIAL EN I Y II CICLOS DIURNOS
Según : AÑO CURSADO
Dependencia: PUBLICA Y PRIVADA
Años : 1970-1983*



* Para el año 1979 no se dispone de la información para las Escuelas Privadas Diurnas por lo que no se incluyeron las cifras para ese año.

1979

TENDENCIA DE LA DISTRIBUCION DE LA MATRICULA INICIAL I Y II CICLOS SEGUN REGIONES

Horario : DIURNO
 Dependencia: PUBLICA, PRIVADA Y SEMI PUBLICA
 Cifras : ABSOLUTAS Y RELATIVAS
 Años : 1974 y 1983

DIRECCION REGIONAL	1974 ^a	1983 ^b			
REGION Y SUBREGION	Matrícula	%	Matrícula	%	
COSTA RICA	357 901	100,0	343 800	100,0	
Central			126 706	36,8	
San José	102 710	} 142 107 27,9	87 164	25,4	
Heredia	25 218		22 278	6,5	
Quepos	-	-	4 297	1,2	
Caraigres	-	-	8 428	2,4	
Puriscal	14 179	3,9	4 539	1,3	
Oriental			39 231	11,4	
Turrialba	-	-	9 189	2,7	
Cartago	39 899	10,8	27 130	7,9	
Los Santos	-	-	2 912	0,8	
Occidental			52 332	15,2	
Alajuela	32 422	} 63 150 8,8	22 619	6,6	
San Ramón	14 464		12 491	3,6	
Puntarenas	16 764		17 222	5,0	
Chorotega			37 561	10,9	
Nicoya	12 958	} 41 019 3,5	8 901	2,6	
Cañas	-		-	11 998	3,5
Santa Cruz	9 703		7 755	2,2	
Liberia	17 358		8 907	2,6	
Brunca			39 020	11,4	
Coto	19 505	} 39 915 5,3	15 804	4,6	
San Isidro	20 470		13 364	3,9	
Buenos Aires	-	-	9 852	2,9	
Atlántica			31 139	9,1	
Guápiles	-	-	17 082	5,0	
Limón	23 765	6,5	14 057	4,1	
Norte			17 811	5,2	
San Carlos	12 205	} 18 486 3,3	17 811	5,2	
Zona Norte	6 281		-	-	-

Cuadro 10 : TENDENCIA DE LA DISTRIBUCION DE LA MATRICULA INICIAL
 III CICLO Y EDUCACION DIVERSIFICADA SEGUN REGIONES
 Horario : DIURNO Y NOCTURNO
 Dependencia: PUBLICA, PRIVADA Y SEMI PUBLICA
 Cifras : ABSOLUTAS Y RELATIVAS
 Años : 1974 y 1983

DIRECCION REGIONAL, REGION Y SUBREGION	1974 ^{a/}		1983 ^{b/}	
	Matrícula	%	Matrícula	%
COSTA RICA	<u>132 140</u>	<u>100,0</u>	<u>153 971</u>	<u>100,0</u>
Central			<u>78 388</u>	<u>50,9</u>
San José	53 351	40,4	58 984	38,3
Heredia	11 656	8,8	14 287	9,3
Quepos	-	-	1 247	0,8
Caraigres	-	-	2 046	1,3
Puriscal	3 144	2,4	1 824	1,2
Central			<u>15 363</u>	<u>10,0</u>
Turrialba	-	-	2 987	1,9
Cartago	12 821	9,7	11 748	7,6
Los Santos	-	-	628	0,5
Occidental			<u>25 202</u>	<u>16,4</u>
Alajuela	12 444	9,4	12 477	8,1
San Ramón	5 966	4,5	5 597	3,7
Puntarenas	4 951	3,8	17 146	4,6
Norotega			<u>13 383</u>	<u>8,7</u>
Nicoya	2 933	2,2	3 230	2,1
Cañas	-	-	2 846	1,8
Santa Cruz	4 045	3,1	3 989	2,6
Liberia	4 656	3,5	3 318	2,2
Sur			<u>9 192</u>	<u>6,0</u>
Coto	3 646	2,8	3 899	2,5
San Isidro	3 598	2,7	3 380	2,3
Buenos Aires	-	-	1 913	1,2
Atlántica			<u>9 002</u>	<u>5,8</u>
Guápiles	-	-	3 921	2,5
Limón	5 596	4,2	5 081	3,3
Norte			<u>3 441</u>	<u>2,2</u>
San Carlos	3 054	2,3	3 441	2,2
Zona Norte	279	0,2	-	-

68,51

23,36

11,654

27,244

33,33

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ANEXO 2
7

CUADRO 19: NUMERO DE INSTITUCIONES Y MATRICULA INICIAL
DE I Y II CICLOS UNIDOCENTES

SEGUN : REGION Y SUBREGION
DEPENDENCIA : PUBLICA
CIFRAS : ABSOLUTAS Y RELATIVAS
AÑO : 1983

REGION Y SUBREGION	NO. INSTITUCIONES		MATRICULA	
	Absoluto	Relativo %	Absoluto	Relativo %
COSTA RICA	<u>1 321</u>	<u>44,9</u>	<u>39 360</u>	<u>11,9</u>
Central	<u>170</u>	<u>32,4</u>	<u>4 736</u>	<u>4,1</u>
San José	10	5,7	344	0,4
Heredia	9	11,0	271	1,2
Quepos	54	65,1	1 452	33,8
Caraigres	32	37,2	986	11,7
Puriscal	65	65,7	1 683	37,1
Oriental	<u>85</u>	<u>32,1</u>	<u>2 511</u>	<u>6,4</u>
Turrialba	31	32,0	938	10,3
Carapazzi	24	20,0	771	2,9
Los Santos	30	62,5	802	27,5
Occidental	<u>160</u>	<u>37,3</u>	<u>4 472</u>	<u>8,7</u>
Alajuela	13	11,3	438	2,0
San Ramón	34	29,1	945	7,7
Puntarenas	113	57,4	3 089	17,9
Chorotega	<u>265</u>	<u>53,5</u>	<u>7 936</u>	<u>21,2</u>
Nicoya	107	66,0	3 063	34,4
Cañas	88	53,7	2 752	22,9
Santa Cruz	37	41,6	1 067	13,8
Liberia	33	41,2	1 054	12,1
Brinca	<u>335</u>	<u>54,3</u>	<u>70 363</u>	<u>26,7</u>
Coto	130	54,2	4 133	26,2
San Isidro	76	41,8	2 309	17,6
Buenos Aires	129	66,2	3 921	39,8
Atlántica	<u>113</u>	<u>38,0</u>	<u>3 669</u>	<u>12,0</u>
Gúápiles	63	35,6	2 042	12,0
Limón	50	41,7	1 627	11,9
Norte	<u>193</u>	<u>61,7</u>	<u>5 673</u>	<u>32,3</u>
San Carlos	193	61,7	5 673	32,3

Continúa

h.v.

Cuadro 17 : TENDENCIA DEL NUMERO DE INSTITUCIONES EDUCATIVAS
 Según " : NIVELES DE ENSEÑANZA
 Horario : DIURNO Y NOCTURNO
 Dependencia: PUBLICO, PRIVADO Y SEMI PUBLICO
 Años : 1970-1983
 Cifras : ABSOLUTAS Y TASAS DE CRECIMIENTO

NIVEL DE ENSEÑANZA	AÑOS				TASA DE CRECIMIENTO (%) ^{1/} PROMEDIO ANUAL			
	1970	1974	1979	1983	1970-1974	1974-1979	1979-1983	1974-1983
TOTAL	<u>2 817</u>	<u>3 386</u>	<u>3 614</u>	<u>3 893</u>	<u>4,7</u>	<u>1,3</u>	<u>1,9</u>	<u>1,6</u>
Preescolar	106	340	360	483	33,8	1,1	7,6	4,0
I y II ciclos	2 582	2 814	3 001	3 028	2,2	1,3	0,2	0,8
III ciclo y Educ.Diver.	<u>127</u>	<u>200</u>	<u>242</u>	<u>242</u>	<u>12,0</u>	<u>3,9</u>	<u>0,0</u>	<u>2,1</u>
Académico	<u>107</u>	147	169	165	0,3	2,8	-0,6	1,3
Técnico	19	52	72	76	28,6	6,7	1,4	4,3
Artístico	1	1	1	1	0,0	0,0	0,0	0,0
Superior	<u>2</u>	<u>5</u>	<u>11</u>	<u>14</u>	<u>13,6</u>	<u>17,1</u>	<u>6,2</u>	<u>12,1</u>
Universitaria	<u>1^{a/}</u>	<u>3^{b/}</u>	<u>5^{c/}</u>	<u>5^{c/}</u>	10,7	10,8	0,0	5,8
Para universitaria	<u>1^{d/}</u>	<u>2^{e/}</u>	<u>6^{f/}</u>	<u>9^{g/}</u>	18,9	24,6	10,7	18,2
Educación especial	N.D.	27	N.D.	126	N.D.	N.D.	N.D.	18,7

^{1/} De tipo geométrico.

^{a/} Universidad de Costa Rica.

^{b/} Universidad de Costa Rica, Instituto Tecnológico de C.R., Universidad Nacional.

^{c/} Universidad de Costa Rica, Instituto Tecnológico de C.R., Universidad Nacional, Universidad Estatal a Distancia, Universidad Autónoma de Centro América.

^{d/} Escuela Centro Americana de Ganadería.

^{e/} ECG e ISAE.

^{f/} CUC, CUNA, ISAF, ITAN, ECG, Inst.de Relaciones Públicas y Adm.

^{g/} CUP, CUC, CUNA, ISAE, ITAN, ECG, ESAN, ITEA, INCOSE.

N.D.: No disponible.

Cuadro 20 PERSONAL TOTAL QUE LABORA EN EDUCACION PREESCOLAR,
I Y II CICLOS, III CICLO Y EDUCACION DIVERSIFICA
Y EDUCACION ESPECIAL

Por : DEPENDENCIA Y GRANDES GRUPOS DE CARGO

Según : NIVEL Y RAMA DE ENSEÑANZA

Año : 1981

NIVEL Y RAMA DE ENSEÑANZA	TOTAL				PÚBLICO				PRIVADO			
	Total	Doc. Adm.	Do- cente	Adm.	Total	Doc. Adm.	Do- cente	Adm.	Total	Doc. Adm.	Do- cente	Adm.
TOTAL	26 171	3 037	19 965	3 149	24 360	2 865	18 692	2 803	1 811	192	1 273	346
Preescolar	820	44	737	39	682	26	635	21	138	18	102	18
I y II ciclos	14 078	1 835	10 684	1 559	13 422	1 794	10 192	1 436	656	41	492	123
III ciclo y educ. diver.	10 838	1 155	8 213	1 470	9 821	1 022	7 534	1 265	1 017	133	679	205
Académico	7 985	930	5 998	1 057	7 005	801	5 336	868	980	129	662	189
Técnico	2 733	220	2 106	407	2 696	216	2 089	391	37	4	17	16
Artístico	120	5	109	6	120	5	109	6	-	-	-	-
Educación especial	435	23	331	81	435	23	331	81	-	-	-	-

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Cuadro 22 : PERSONAL DOCENTE
 Por : GRANDES GRUPOS PROFESIONALES
 Según : NIVEL DE ENSEÑANZA, RAMA Y HORARIO
 Dependencia: PÚBLICA
 Cifras : ABSOLUTAS Y RELATIVAS (%)
 Año : 1981

NIVEL DE ENSEÑANZA, RAMA Y HORARIO	CIFRAS ABSOLUTAS					CIFRAS RELATIVAS				
	Total	Titulado	Autorizado	Aspirante	Ignorado	Total	Titulado	Autorizado	Aspirante	Ignorado
TOTAL	18 692	15 790	1 543	1 316	43	100,0	84,5	8,3	7,0	0,2
Preescolar	635	557	63	15	-	100,0	87,7	9,9	2,4	0,0
I y II ciclos	10 792	8 918	568	699	2	100,0	87,5	5,6	6,8	0,1
Diurno	10 055	8 791	565	692	7	100,0	87,4	5,6	6,9	0,1
Nocturno 1/	137	127	3	7	-	100,0	92,7	2,2	5,1	0,0
III ciclo y educ. diver.	7 534	6 047	877	600	10	100,0	80,3	11,6	8,0	0,1
Diurno	6 334	5 062	790	472	10	100,0	79,9	12,5	7,4	0,1
Académico 2/	4 171	3 590	307	270	4	100,0	86,0	7,4	6,5	0,1
Técnico 3/	2 054	1 450	436	182	6	100,0	69,6	21,2	8,9	0,1
Artístico	109	42	47	20	-	100,0	38,5	43,1	13,4	0,0
Nocturno	1 200	985	87	128	-	100,0	82,1	7,2	10,7	0,0
Académico	1 165	950	87	128	-	100,0	81,5	7,5	11,0	0,0
Técnico	35	35	-	-	-	100,0	100,00	-	-	0,0
Educación especial 4/	311	268	35	2	26	100,0	81,0	10,6	0,6	0,0

1/ Los datos de las escuelas nocturnas: Paraíso de la Región Oriental y Cultura Popular de la Región Atlántica fueron estimados tomando los de 1980.

2/ El dato del colegio académico Mario Quiros Sasso de la Región Oriental fue estimado tomando el de 1980.

3/ El dato del colegio Técnico de Siquirres de la Región Atlántica fue suministrado por el Departamento de Administración Educativa.

4/ Los datos de las subregiones educativas de San Ramón y Nicoya fueron estimadas tomando las de 1980.

Cuadro 21 : PERSONAL DOCENTE-ADMINISTRATIVO.
 Por : GRANDES GRUPOS PROFESIONALES
 Según : NIVEL DE ENSEÑANZA, RAMA Y HORARIO
 Dependencia: PUBLICA
 Cifras : ABSOLUTAS Y RELATIVAS (%)
 Año : 1981

NIVEL DE ENSEÑANZA RAMA Y HORARIO	CIFRAS ABSOLUTAS				CIFRAS RELATIVAS			
	Total	Titulado	Autorizado	Aspirante	Total	Titulado	Autorizado	Aspirante
TOTAL	<u>2 865</u>	<u>2 603</u>	<u>146</u>	<u>116</u>	<u>100,0</u>	<u>90,9</u>	<u>5,1</u>	<u>4,2</u>
Preescolar	<u>26</u>	<u>24</u>	<u>2</u>	-	<u>100,0</u>	<u>92,3</u>	<u>7,7</u>	-
I y II ciclos	<u>1 704</u>	<u>1 721</u>	<u>39</u>	<u>34</u>	<u>100,0</u>	<u>95,9</u>	<u>2,2</u>	<u>1,2</u>
Diurno	<u>1 704</u>	<u>1 701</u>	<u>39</u>	<u>34</u>	<u>100,0</u>	<u>100,0</u>	<u>2,2</u>	<u>1,9</u>
Nocturno ^{1/}	<u>20</u>	<u>20</u>	-	-	<u>100,0</u>	<u>100,0</u>	-	-
III ciclo y educ. diver.	<u>1 022</u>	<u>838</u>	<u>102</u>	<u>82</u>	<u>100,0</u>	<u>82,0</u>	<u>10,0</u>	<u>8,0</u>
Diurno	<u>819</u>	<u>670</u>	<u>79</u>	<u>70</u>	<u>100,0</u>	<u>81,8</u>	<u>9,6</u>	<u>8,6</u>
Académico ^{2/}	<u>605</u>	<u>499</u>	<u>56</u>	<u>50</u>	<u>100,0</u>	<u>82,5</u>	<u>9,2</u>	<u>8,3</u>
Técnico ^{3/}	<u>209</u>	<u>166</u>	<u>23</u>	<u>20</u>	<u>100,0</u>	<u>79,4</u>	<u>11,0</u>	<u>9,6</u>
Artístico	<u>5</u>	<u>5</u>	-	-	<u>100,0</u>	<u>100,0</u>	-	-
Nocturno	<u>203</u>	<u>168</u>	<u>23</u>	<u>12</u>	<u>100,0</u>	<u>82,8</u>	<u>11,3</u>	<u>5,9</u>
Académico	<u>196</u>	<u>161</u>	<u>23</u>	<u>12</u>	<u>100,0</u>	<u>82,2</u>	<u>11,7</u>	<u>6,1</u>
Técnico	<u>7</u>	<u>7</u>	-	-	<u>100,0</u>	<u>100,0</u>	-	-
Educación especial ^{4/}	<u>23</u>	<u>20</u>	<u>3</u>	-	<u>100,0</u>	<u>87,0</u>	<u>13,0</u>	-

- 1/ Los datos de las Escuelas nocturnas: Parafón de la Región Oriental y Cultura Popular de la Región Atlántica fueron estimados tomando los de 1980.
- 2/ El dato del Colegio Académico Mario Quiros Sasso de la Región Oriental fue estimado tomando el de 1980.
- 3/ El dato del Colegio Técnico de Siquirres de la Región Atlántica fue suministrado por el Depto de Administración Educativa.
- 4/ Los datos de las subregiones educativas de San Ramón y Nicoya fueron estimados tomando los de 1980.

GRAFICO Nº 10: ANALISIS DE SUPERVIVENCIA DE LA COHORTE DE 1977, CORRESPONDIENTE A LOS ALUMNOS QUE INGRESARON A PRIMER AÑO.

NIVEL : I Y II CICLOS DIURNO.

SECTOR : PUBLICO Y PRIVADO.

AÑO CURSADO

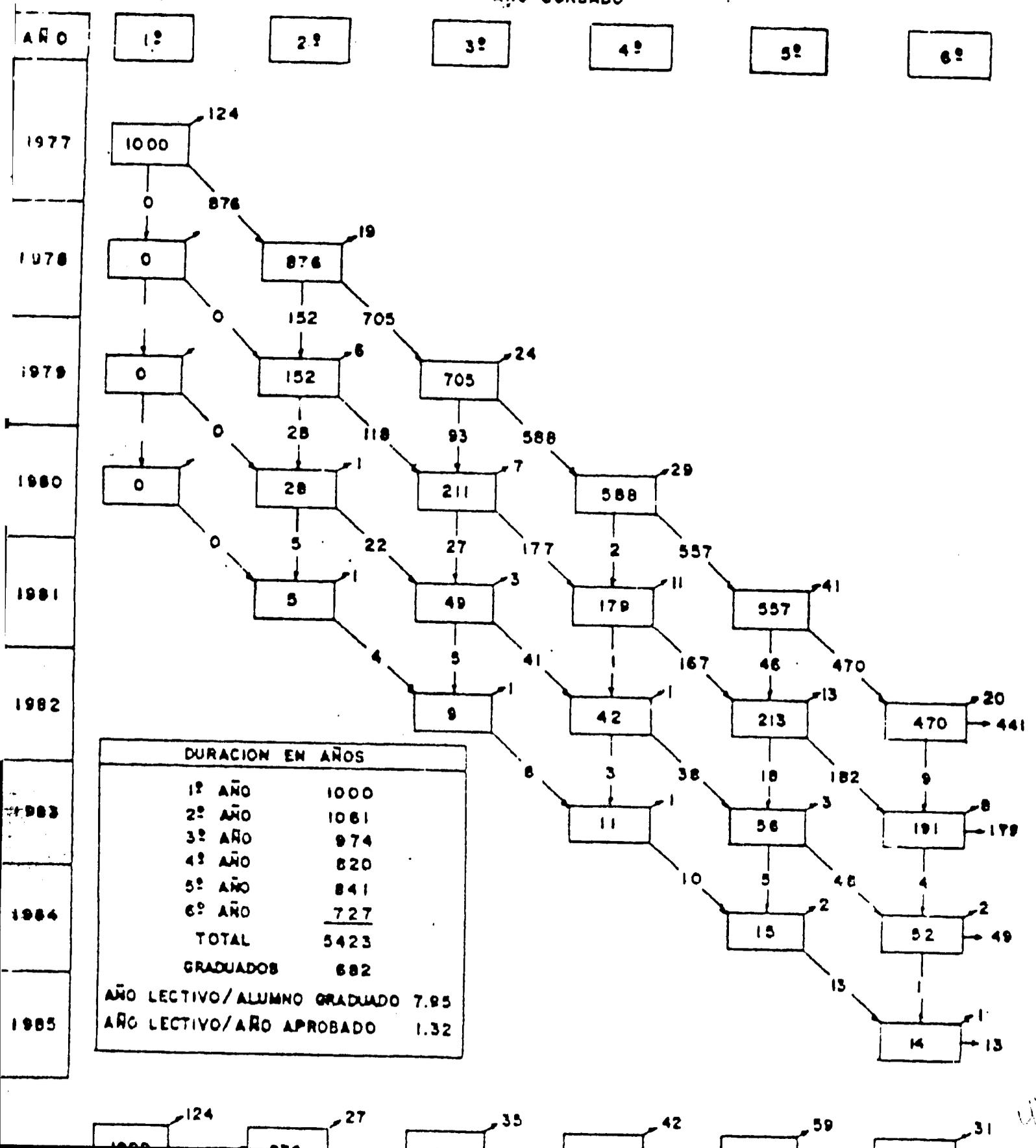
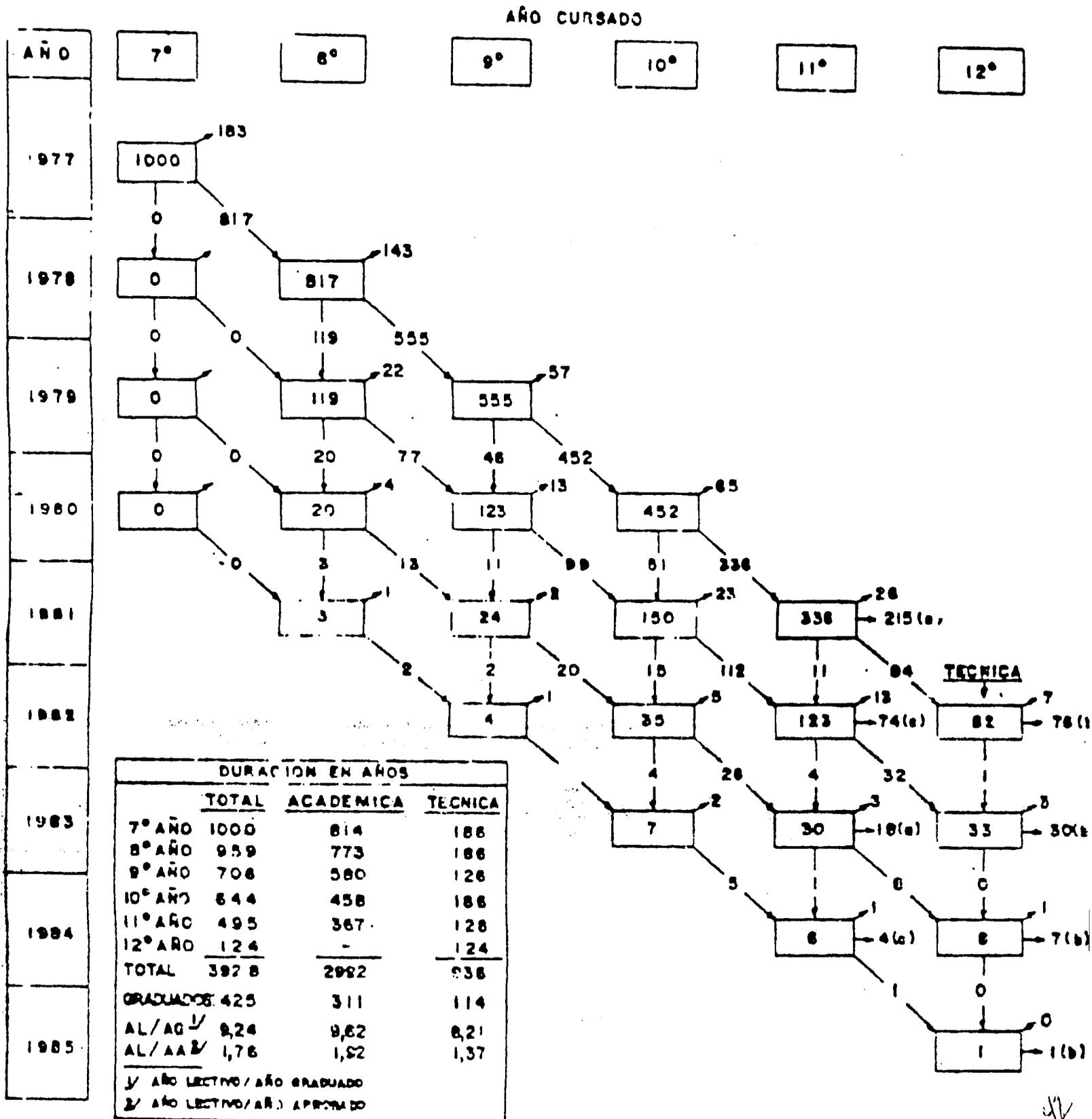


GRAFICO Nº 12: ANALISIS DE SUPERVIVENCIA DE LA COHORTE DE 1977, CORRESPONDIENTE A LOS ALUMNOS QUE INGRESARON A SETIMO AÑO.

NIVEL : III CICLO Y EDUCACION DIVERSIFICADA, DIURNO.

SECTOR : PUBLICO Y PRIVADO.



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170

73

95

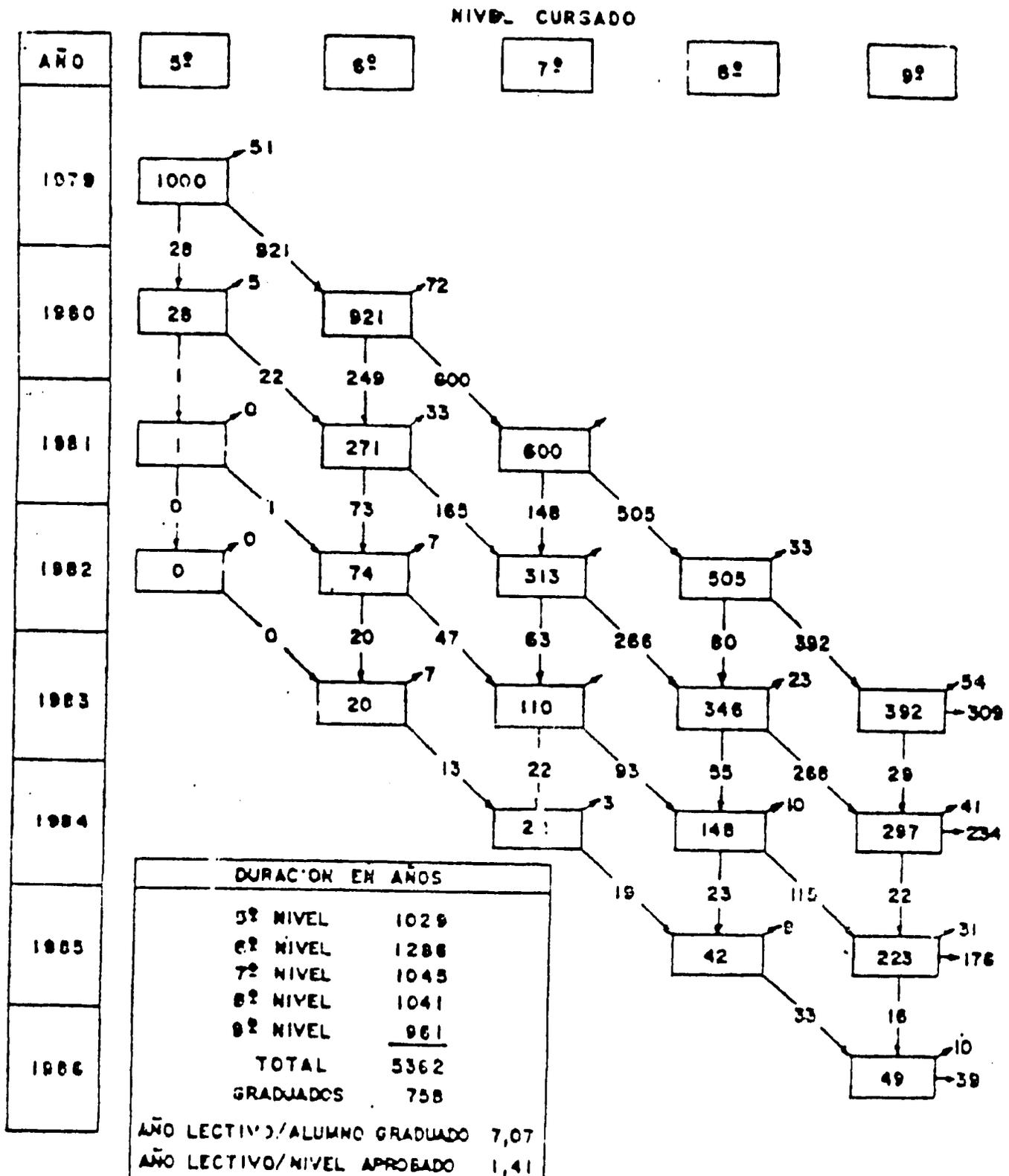
43

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GRAFICO Nº 19: ANALISIS DE SUPERVIVENCIA DE LA COHORTE DE 1979, CORRESPONDIENTE A LOS ALUMNOS QUE INGRESARON AL 5º NIVEL (SETIMO AÑO).

NIVEL : ENSEÑANZA MEDIA NOCTURNA.

SECTOR : PUBLICO Y PRIVADO.



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