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56

Economic Intelligence Report

**CURRENT DEVELOPMENTS IN EDUCATION
IN COMMUNIST CHINA**



CIA/RR ER 61-12

March 1961

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

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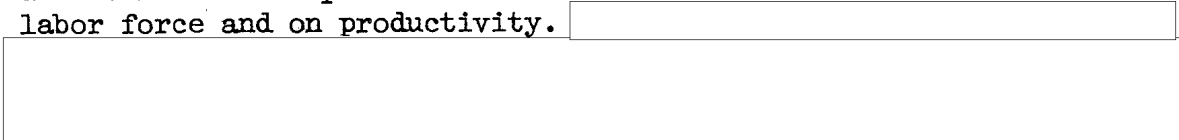
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FOREWORD

The purpose of this report is to present the major developments of the educational system in Communist China during 1949-60, primarily as background for an assessment of probable trends in the future supply of skilled manpower. The report assembles data on trends in enrollments and graduations during 1949-60 by type of school, discusses the provisions of the current educational reform, and evaluates its potential effects on the size and skill of the labor force and on productivity.



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CURRENT DEVELOPMENTS IN EDUCATION IN COMMUNIST CHINA*Summary

A major reorganization of the educational system in Communist China was announced by the Minister of Education, Yang Hsiu-feng, in April 1960. This reorganization -- to be completed within the next 10 to 20 years -- continues reforms started in 1958. The most significant changes are the planned reduction of the period of full-time primary and middle school education from 12 to 10 years and the possible lowering of the school-entry age from 7 to 6. Although a final decision on the form of the new 10-year schools apparently has not been made and experiments are continuing, educational spokesmen now seem to favor a unified school without primary and secondary divisions. The new school will be expected to graduate students with a level of accomplishment equal to that of present college freshmen. This compression of 13 years of study into 10 years is to be accomplished primarily through a reform of the curriculum, which is to emphasize languages, mathematics, and science. Finally, "productive labor" is to be an obligatory and more important part of the school program at all levels.

Communist China has made spectacular progress in education during the past decade. Illiteracy among young adults has been greatly reduced, primary education has become nearly universal, enrollment in secondary schools and colleges has expanded rapidly, and programs for spare-time education and on-the-job training have developed widely. Enrollment in regular primary schools increased from 24 million in the 1949/50 school year to 90 million in the 1959/60 school year, and the regime now claims that 87 percent of all children of primary school age are in school. During the same period, enrollment in secondary schools rose from 1.3 million to nearly 13 million, and college enrollment rose from a mere 118,000 to 810,000. Enrollment in all kinds of spare-time schools increased from about 1.6 million in the 1952/53 school year to a startling 48 million 7 years later. Except for colleges, the enrollment levels achieved in the 1959/60 school year fulfill the goals originally set for 1962 in the Second Five Year Plan (1958-62).

Although Chinese Communist educational statistics are believed to be generally reliable, particularly those pertaining to the regular

* The estimates and conclusions in this report represent the best judgment of this Office as of 1 February 1961.

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schools, the quality of education that is reflected in these statistics probably was far from uniform throughout the period. The quality of education must have suffered severely during the "leap forward" program -- for example, when students at all levels were taken out of schools to man backyard furnaces and to work on irrigation and other such mass projects -- and the sharp spurts in enrollment in the 1951/52, 1956/57, and 1958/59 school years surely must have strained school facilities to the utmost and resulted in a deterioration of educational standards.

The massive effort of the regime in the field of education is indicated by the rapid increase of government expenditures on "education and cadre training." These expenditures rose from 492 million yuan* in 1950 to 3,338 million yuan in 1959 and, according to the planned budget, were to be 5,114 million yuan in 1960. In spite of the rapid expansion of government expenditures on education, trained teachers and school buildings and equipment have remained chronically in short supply. These shortages clearly must have adversely affected the quality of education.

The motivation for the current changes in the educational system in Communist China appears to be primarily economic. The reforms are designed to improve the capabilities of China's future labor force to meet the anticipated needs of the economy by giving students more work experience in school and by raising the level of education. In addition, the reform is intended to reduce the real costs of education by shortening the period of schooling, thus bringing secondary school graduates into the labor force at an earlier age.

The timing of the reform reflects the imperative need for rapidly increasing the supply of skilled manpower in support of Communist China's ambitious program for industrial development. The reform is not expected to affect the size of the labor force significantly during the next several years, however, because the number of senior secondary students who would be directly affected is small, only about 1 million, and because the reform is to be carried out gradually over a period of 10 to 20 years. The reorganization of the educational system probably will have a favorable long-run effect on the skill of the labor force and on productivity. If the reform achieves the stated objectives, young people will enter the labor force from the 10-year schools with the educational equivalent of a first-year college student and also with some work experience. Thus, not only will the average new worker bring work experience and more education to his job but also he will require less training on the job and will become fully productive more quickly.

* Yuan values throughout this report are given in current yuan. In trade with non-Communist countries, 2.46 yuan equal US \$1.

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I. Present Educational SystemA. Description of the System1. Structure

Under the Communist regime in China the primary function of the educational system has been to give the new generation the knowledge and skills required of potential workers in an economy undergoing rapid industrialization. Although radical changes have been made in the subject matter and content of courses, the organization of the school system is still about the same as it was under the Nationalist regime. Formal education, which is not legally compulsory, normally begins at 7 years of age. In general, the formal, full-time school program includes 6 years of primary education, 6 years of secondary education,* and 4 to 5 years of higher education** (see the accompanying chart***). Primary schools are divided into a lower section of 4 years and a higher section of 2 years. Middle schools have junior and senior divisions of 3 years each. Of the two types of secondary vocational schools -- technical schools and normal schools -- the former train intermediate-level technicians and require approximately 3 years beyond the junior middle school, and the latter train primary school teachers and have junior and senior divisions of 3 years each. Finally, agricultural schools, which were first established in 1958, also have junior and senior divisions, each requiring approximately 3 years. In addition to this formal system of full-time education, China now has an extensive program of spare-time schooling and on-the-job training.

2. Administration

The administration of education in Communist China is highly centralized. Over-all administrative control rests primarily in the Ministry of Education,† whose activities are directed by the

* The terminology used to describe Chinese schools is often confusing because of the variety of English equivalents used in translations. In this report the term secondary education includes three kinds of schools -- middle schools, secondary vocational schools, and agricultural schools.

** In this report the term higher education includes colleges, universities, and specialized institutes. The term college is used synonymously with higher education.

*** Following p. 4.

† The Ministry of Higher Education, established in 1952, and the Ministry of Education were combined into one Ministry of Education in February 1958.

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Culture and Education Staff Office of the State Council. Within the framework of general policies laid down by the Communist Party and the State Council, the central ministry sets enrollment quotas for the various levels of education, plans the number of students to be assigned to each field of study, particularly at the college level, and determines the work assignments of college graduates. The Ministry of Education also develops standard curricula for the various school levels.

Until 1954, education in each major geographic region of Communist China was administered by a regional department of education, which supervised educational activities in several provinces. Since the abolition of the regional administrations in mid-1954, the local administration of education has been carried out by (a) provincial departments of education that have jurisdiction over most secondary schools in the province and (b) hsien (county) bureaus of education that supervise the primary schools in each hsien. These departments and bureaus are directly subordinate to the local provincial and hsien governments but receive planning and policy direction from the Ministry of Education. An official policy of decentralizing control over primary schools, secondary schools, and most institutions of higher education was announced in a directive issued by the Party Central Committee and the State Council on 29 September 1958. 2/ The nature and significance of the planned decentralization are not yet clear.

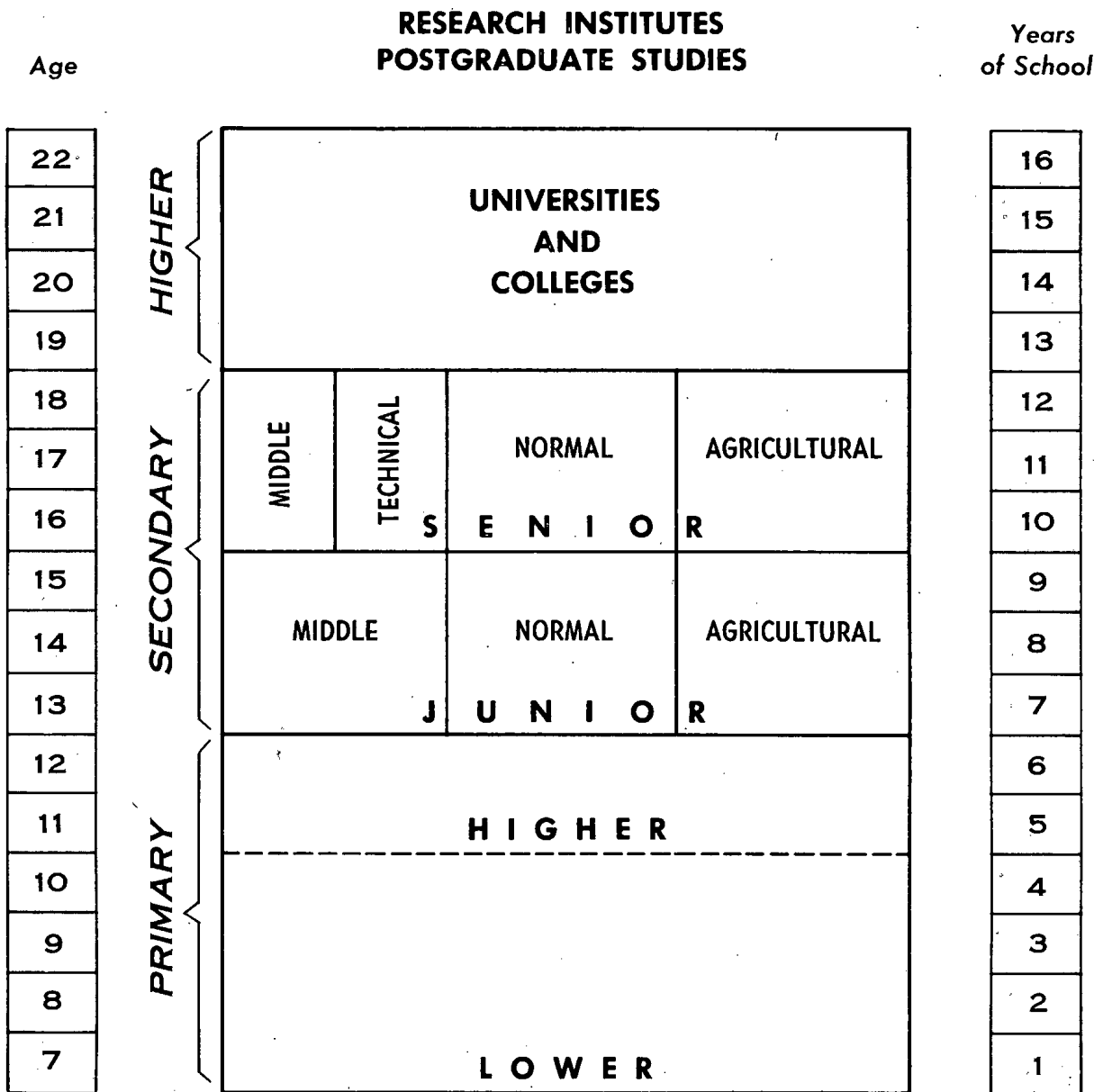
3. Government Policies Toward Education

Communist China has consistently stressed the critical importance to economic development of rapid expansion of education and training of the population. The vigor with which this objective has been pursued, however, has not been uniform, and at times the regime has been willing to sacrifice immediate progress in education in order to meet short-term economic needs. During 1949-53 the regime was chiefly preoccupied with the quantitative expansion of educational facilities and enrollment, the primary objective of this phase of the drive for mass education being to increase the number of skilled workers for industry as quickly as possible. To this end, the regime established numerous short-term training courses for training semi-skilled workers and attempted to shorten the period of general schooling. In October 1951, primary schools were shifted from a 6-year system to a 5-year system, but this action was reversed in late 1953, probably because the change lowered the quality of middle school candidates.

From the latter part of 1953 to the latter part of 1955, government policy encouraged primary and junior middle school graduates to go to work rather than to continue in school. 3/ As a

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COMMUNIST CHINA EDUCATIONAL SYSTEM BEFORE THE REORGANIZATION BEGINNING IN 1960



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consequence, the colleges found it increasingly difficult to meet planned admission quotas, and graduates of urban primary and junior middle schools began to have trouble obtaining suitable jobs. 4/

By late 1955 the regime apparently became convinced that additional resources must be allocated to education and that more emphasis must be placed on raising its quality. Economic planners began to realize that graduates of primary and secondary schools were more valuable as potential engineers and scientists than as immediate increments to the labor force, particularly because the industrial labor force was already oversupplied with unskilled urban workers. In 1956 the government reversed its previous policy of discouraging school graduates from further education, abandoned its experimentation with accelerated courses, and launched a campaign to raise educational standards. 5/ One immediate action was the lengthening of courses of study in colleges and secondary technical schools.*

As a result of these policies, enrollment in all educational institutions increased sharply in 1956. By the spring of 1957, however, it became clear that the expanded educational program was overtaxing the capacity of both the teaching staff and the school facilities, and a retrenchment began. College admissions were cut back from 163,000 in the 1956/57 school year to 107,000 in the 1957/58 school year. 7/ Most middle school graduates were again discouraged from seeking admission to colleges, and the program of foreign study was cut back.**

Under the momentum of the "leap forward" in 1958, however, school enrollment at all levels again expanded sharply, and educational policy was again revised. A directive on education issued by the Party Central Committee and the State Council on 29 September laid down the following policies:

- a. Decentralization of control over education by placing schools under the direction of local authorities (including communes, factories, and mines), with the Ministry of Education retaining a guiding and coordinating function;
- b. Increased Party surveillance over the execution of educational plans and policies, with more emphasis on political indoctrination at all school levels;

* Colleges lengthened most undergraduate courses from 4 to 5 years, particularly in the industrial fields, and secondary industrial technical schools extended their courses from 3 to 4 years. 6/

** See I, B, p. 6, below.

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c. Productive labor to be an integral part of formal education, schools being required to establish their own factories and farms and factories and agricultural cooperatives being directed to build their own schools;

d. Expansion of spare-time classes and mutual instruction;
and

e. Inauguration of experiments directed toward the eventual reorganization of the entire system of primary and secondary education.

The government evidently considers reasonably satisfactory progress to have been made in the past 2 years along the lines laid down in the directive. Experiments in restructuring the school system, in modifying the curricula for primary and middle schools, and in improving teaching methods* have been carried out. These experiments are a prelude to a more vigorous reform to be carried out over the next decade.**

B. Influence of the USSR

The USSR has had an important influence on the educational system of Communist China. Although China has not copied the Soviet school system, various changes in Chinese education have been influenced heavily by the example of the USSR. With respect to the formal, full-time school, Soviet influence is reflected mainly in the curricula and content of courses rather than in the kinds of schools and the length of courses. The spare-time schools and the schools and courses for workers established in factories, however, closely resemble their Soviet counterparts in all important ways.

In addition to providing an example of supplying educational materials, the USSR has sent educational technicians to Communist China. In the field of higher education alone a total of 4,000 educational experts was sent to China during 1951-56 -- they taught more than 700 courses and compiled more than 600 textbooks. ^{8/} In addition, Chinese students have been sent to the USSR for technical training. Under the First Five Year Plan (1953-57), 10,100 students were

* Some schools experimented with lowering the age at which children can be admitted to primary school from 7 to 6, with a 5-grade unified primary school, with a 5-grade unified middle school or a 3-year junior and a 2-year senior middle school system, and with a 10-year unified primary and secondary school system. Other schools experimented with teaching simple reading and arithmetic in kindergarten, languages in first grade, and more advanced mathematics in primary school.

** See II, A, p. 20, below.

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to be sent abroad, 9,400 to the USSR and 700 to the European Satellites, and it was expected that 9,900 students would be studying abroad by the end of 1957. 9/ Only 7,099 students were sent abroad during the First Five Year Plan, however, 10/ and by the end of 1958 only 6,572 students had been sent to the USSR,* 1,064 of whom had completed their work and returned to China. 13/ In 1957 the Chinese government decided that only postgraduate and advanced undergraduate students would be sent abroad for study. 14/

In 1959, more than 1,300 Chinese students were graduated from Soviet schools 15/; in 1960, 1,300 students were graduated from schools in the USSR and other Bloc countries. 16/ Although the number of Chinese studying in the USSR appears to be declining, an estimated total of 4,500 Chinese was studying there, mostly in scientific and technical fields, 17/ before the Sino-Soviet ideological conflict in the summer of 1960. Since then, some of these students apparently have withdrawn. 18/

C. Trends in Enrollment and Graduations

Communist China has made spectacular progress in education during the past decade. Illiteracy among adults has been greatly reduced. Primary education has now become almost universal, enrollment in secondary schools and colleges has risen rapidly, and programs for spare-time education and on-the-job training have developed widely. According to official statistics, 152 million persons were enrolled in regular and spare-time schools in the 1959/60 school year compared with only 56 million in the 1952/53 school year (see Table 1**). The goals set in the Second Five Year Plan (1958-62) are to wipe out illiteracy in the adult population below 40 years of age and to make primary education universal. During 1963-67 a junior middle school education is supposed to become universal.

* There is some discrepancy in statements concerning the number of "Chinese students" who have been sent to the USSR for study. Chien Chun-jui, Vice-Minister of Culture, states that from 1950 to 1958 China sent to the USSR for advanced study more than 14,000 students, 8,500 of whom have already completed their studies and returned to China. In addition, he states that up to the end of 1958 the USSR received 38,063 students from China for field work in Soviet factories and other enterprises. 11/ In contrast, Yelyutin, Minister of Higher Education in the USSR, states that only 7,000 students, of whom 1,400 were post-graduates, were admitted to Soviet higher educational and scientific establishments during 1950-60. Furthermore, he reports that only 8,000 Chinese were trained in Soviet enterprises. 12/ Yelyutin's figures are used in this report because of his authoritative position, because his figures are more current, and because they are more consistent with other data.

** Table 1 follows on p. 8.

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Table 1

Enrollment in Regular and Spare-Time Schools in Communist China, by Type of School a/
1949/50 School Year - 1959/60 School Year

	Thousand Students										
	1949/50	1950/51	1951/52	1952/53	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60
Total	N.A.	N.A.	N.A.	<u>56,050</u>	<u>57,419</u>	<u>58,718</u>	<u>63,772</u>	<u>71,907</u>	<u>81,424</u>	<u>128,200</u>	<u>151,780</u>
Regular	25,777	30,624	45,260	54,421	55,481	55,671	57,856	69,849	71,779	97,050	103,710
Spare-time	N.A.	N.A.	N.A.	1,629	1,938	3,047	5,916	8,058	9,645	31,150	48,070
College	<u>118</u>	<u>138</u>	<u>157</u>	<u>199</u>	<u>226</u>	<u>271</u>	<u>309</u>	<u>472</u>	<u>517</u>	<u>810</u>	<u>1,180</u>
Regular	118	138	155	195	216	258	293	408	441 b/	660 b/	810 c/
Graduate	1 d/	1 d/	2 d/	4 d/	4 d/	5 e/	5 f/	5 g/	N.A.	N.A.	N.A.
Undergraduate	117	137	153	191	212	253	288	403	441	660	N.A.
Spare-time	Negl.	Negl.	2	4	10	13	16	64	76	150	370 h/
Secondary	N.A.	N.A.	N.A.	<u>3,376</u>	<u>4,006</u>	<u>5,141</u>	<u>5,799</u>	<u>8,776</u>	<u>10,361</u>	<u>14,990 i/</u>	<u>22,600 i/</u>
Regular	1,268	1,562	1,951	3,126	3,601	4,195	4,437	5,977	7,059	9,990	12,900 e/
Middle	1,039	1,305	1,568	2,490	2,933	3,587	3,900	5,165	6,281	8,520	N.A.
Vocational	229	257	383	636	668	608	537	812	778	1,470	N.A.
Spare-time	N.A.	N.A.	N.A.	250	405	946	1,362	2,799	3,302	5,000 j/	9,700 e/
Middle	N.A.	N.A.	N.A.	249	404	760	1,167	2,236	2,714	5,000	N.A.
Vocational	Negl.	Negl.	Negl.	1	1	186	195	563	588	N.A.	N.A.
Primary	N.A.	N.A.	N.A.	<u>52,475</u>	<u>53,187</u>	<u>53,306</u>	<u>57,664</u>	<u>68,659</u>	<u>70,546</u>	<u>112,400</u>	<u>128,000</u>
Regular	24,391	28,924	43,154	51,100	51,664	51,218	53,126	63,464	64,279	86,400	90,000 e/
Spare-time	N.A.	N.A.	N.A.	1,375	1,523	2,088	4,538	5,195	6,267	26,000	38,000 e/

b. Excluding graduate students.

c. 20/

d. 21/

e. 22/

f. 23/

g. 24/

h. 25/

i. Excluding agricultural middle school enrollment.

j. Excluding spare-time vocational students.

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Chinese Communist educational statistics are believed to be generally reliable, particularly those relating to regular schools. The data on enrollment in spare-time schools could be exaggerated, and the kind of schools, courses, and students to which these data pertain is far from clear.

The quality of education that is reflected in the official statistics on school enrollments and graduations probably was not uniform throughout the period. For example, the quality of education must have suffered greatly during the 1958/59 school year, when students at all levels were taken out of schools to man backyard furnaces and to work on irrigation and similar mass projects. Furthermore, the phenomenal increase in enrollment during 1958-60 surely must have strained school facilities to the utmost and resulted in a deterioration of educational standards.

1. Primary and Secondary Schools

As shown in Table 1, regular enrollment in the primary schools of Communist China increased from 24 million in the 1949/50 school year to 90 million in the 1959/60 school year, or about 3 times. The number for the 1959/60 school year -- nearly nine-tenths of all children 7 to 12 years of age* -- fulfills the goal for 1962 set in the Second Five Year Plan. More than three-fifths of the full-time primary students in the 1958/59 school year were boys (see Table 2**). The Chinese claim that primary schools graduated about 84 million students during 1958-60 (see Table 3***), and it is estimated that about 35 million were graduated in 1959-60.

Regular enrollment in all types of secondary schools increased from 1.3 million in the 1949/50 school year to 12.9 million in the 1959/60 school year, or about 9 times.† The enrollment in the 1959/60 school year -- representing about one-fifth of the population 13 to 18 years of age -- slightly exceeds the goal for 1962 set in the Second Five Year Plan.††

* All population data are derived from projections of the official age distribution given in the 1953 census. 26/

** Table 2 follows on p. 10.

*** Table 3 follows on p. 11.

† In addition to the secondary school enrollments shown in Table 1, 3 million persons reportedly attended more than 30,000 agricultural middle schools in 1960. 27/ These schools were established as part of the "leap forward" in 1958, and their number has increased so rapidly that the quality of training probably is far below that of the regular secondary schools.

†† Text continued on p. 12.

Table 2

Enrollment in Regular Schools in Communist China, by Type of School and Sex a/
Selected School Years, 1949/50 - 1959/60

	Thousand Students					
	<u>1949/50</u>	<u>1951/52</u>	<u>1952/53</u>	<u>1957/58</u>	<u>1958/59</u>	<u>1959/60</u>
Total	<u>25,777</u>	<u>45,260</u>	<u>54,421</u>	<u>71,779</u>	<u>97,050</u>	<u>103,710</u>
Male	N.A.	N.A.	36,819	47,359	60,568	N.A.
Female	N.A.	N.A.	17,602	24,420	36,482	N.A.
College	<u>118</u>	<u>155</u>	<u>195</u>	<u>441</u>	<u>660</u>	<u>810</u>
Male	95	126	149	338	506	644
Female	23	29 b/	46	103	154	166 b/
Secondary	<u>1,268</u>	<u>1,951</u>	<u>3,126</u>	<u>7,059</u>	<u>9,990</u>	<u>12,900</u>
Male	N.A.	1,480	2,382	4,918	6,926	9,596
Female	N.A.	471 b/	744	2,141	3,064	3,304 b/
Primary	<u>24,391</u>	<u>43,154</u>	<u>51,100</u>	<u>64,279</u>	<u>86,400</u>	<u>90,000</u>
Male	N.A.	N.A.	34,288	42,103	53,136	N.A.
Female	N.A.	N.A.	16,812	22,176	33,264	N.A.

a. Enrollment totals are from Table 1, p. 8, above.

b. Estimated on the basis of official statements that the total number of women in colleges and secondary schools was 500,000 in the 1951/52 school year and 3.47 million in the 1959/60 school year. 29/

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Table 3

Annual Number of Graduates from Schools in Communist China, by Type of School 1950-60

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	Thousand Graduates										
	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Total	<u>3,218</u>	<u>4,592</u>	<u>6,263</u>	<u>10,565</u>	<u>10,996</u>	<u>11,513</u>	<u>13,463</u>	<u>13,808</u>	<u>17,801</u>	N.A.	N.A.
College	<u>18</u>	<u>19</u>	<u>32</u>	<u>48</u>	<u>47</u>	<u>55</u>	<u>63</u>	<u>56</u>	<u>72</u>	<u>70 b/</u>	<u>135 b/</u>
Secondary	<u>371</u>	<u>341</u>	<u>289</u>	<u>572</u>	<u>813</u>	<u>1,204</u>	<u>1,113</u>	<u>1,445</u>	<u>1,504</u>	N.A.	N.A.
Middle	296	284	221	454	644	969	939	1,299	1,313	N.A.	N.A.
Vocational	75	57	68	118	169	235	174	146	191	N.A.	N.A.
Primary	<u>2,829</u>	<u>4,232</u>	<u>5,942</u>	<u>9,945</u>	<u>10,136</u>	<u>10,254</u>	<u>12,287</u>	<u>12,307</u>	<u>16,225</u>	N.A.	N.A.

b. 31/

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Seven out of every 10 students enrolled in full-time secondary schools in the 1958/59 school year were boys. According to official reports, 7.7 million persons were graduated from secondary schools of all types during 1950-58, and it is estimated that about 3.5 million persons were graduated in 1959-60.

2. Colleges

In response to the critical need to train a native intelligentsia, Communist China has rapidly expanded its facilities for higher education during the past decade. In the 1959/60 school year, there were 810,000 full-time college students -- only a little short of the goal of 850,000 for 1962 set in the Second Five Year Plan, compared with 441,000, excluding graduate students, in the 1957/58 school year and 118,000, including graduate students, in the 1949/50 school year. More than three-fourths of the full-time students in the 1958/59 school year were men, and nearly 37 percent of all full-time students, the same percentage as in the USSR, were specializing in engineering fields (see Table 4*). Admissions in the 1960/61 school year are planned at 280,000, an increase of 30,000 above the previous year. 32/

Although a few thousand "research students" were given graduate training of some kind during 1950-55, the first graduate program leading to an advanced degree was not launched until 1956, when a 4-year program was begun under the Academy of Sciences in Peking. 33/ Because of the inadequate preparation of graduates of Chinese Communist colleges, the Academy of Sciences had to set up its own University of Science and Technology in 1958, at which candidates for graduate work are given preparatory training by members of the academy. 34/

During 1950-60 a total of 615,000 students were graduated from the colleges of Communist China. Annual graduations increased fairly steadily from a mere 18,000 in 1950 to 70,000 in 1959. In 1960 the number of graduates rose to 135,000, largely as a result of the sharp increase in college admissions 4 years earlier. Some of the increase in 1960 also may reflect the delayed graduation of students temporarily taken out of school and assigned to jobs during the "leap forward" in 1958. The figure for 1960 also may include graduates of the 2-year technical colleges first established in 1958.

Although the absolute number of college graduates is large and is increasing, the proportion of college graduates in the total population of Communist China is still extremely small. In 1949, there

* Table 4 follows on p. 13.

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Table 4

Engineering Students as a Proportion of Regular College Enrollments and Graduations
in Communist China
1949/50 School Year - 1959/60 School Year

	Unit of Measure	1949/50	1950/51	1951/52	1952/53	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60
College students <u>a/</u>	Thousand	118	138	155	195	216	258	293	408	441	660	810
In engineering												
Students	Thousand	30.3 <u>b/</u>	38.5 <u>b/</u>	48.5 <u>b/</u>	66.6 <u>b/</u>	80.1 <u>b/</u>	95.0 <u>c/</u>	109.6 <u>c/</u>	151.0	163.2	244.2	N.A.
	Percent	26	28	31	34	37	37	37	37 <u>d/</u>	37 <u>e/</u>	37 <u>f/</u>	N.A.
College graduates <u>g/</u>	Thousand	18	19	32	48	47	55	63	56	72	70	135
In engineering												
Graduates	Thousand <u>h/</u>	4.7	4.4	10.2	14.6	15.6	18.6	22.0	17.2	17.5	N.A.	N.A.
	Percent	26	23	32	30	33	34	35	31	24	N.A.	N.A.

a. From Table 1, p. 8, above.

b. 35/c. 36/

d. Assumed to be the same as the figure for 1953-55 and 1957-58.

e. 37/f. 38/

g. From Table 3, p. 11, above.

h. 39/

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probably were only about 3 or 4 college graduates per 10,000 population. 40/ This proportion may now be about 9 per 10,000 compared with 181 per 10,000 for the USSR in 1959 41/ and 469 per 10,000 for the US in 1959. 42/ China, like the USSR, has given priority in its college curricula to the training of engineers. As shown in Table 4, 30 per cent of the 410,000 students who were graduated during 1950-58 were engineers. During 1950-57 the colleges graduated more students each year in engineering than in any other field, but, as shown in Table 5,* in 1958 the number of graduates in education (31,595) far exceeded the number of graduates in engineering (17,499), a response to the pressing need for trained teachers to support the greatly expanded program of secondary education.

3. Spare-Time Schools and Schools for Illiterates

Spare-time education has been expanding rapidly in Communist China, particularly since the 1958/59 school year. The number of students in all spare-time schools rose steadily from 1.6 million in the 1952/53 school year to 9.6 million in the 1957/58 school year and then increased sharply to more than 31 million in the 1958/59 school year and to 48 million in the 1959/60 school year (see Table 1**). The level of enrollment in the 1959/60 school year already exceeds the goal for 1962 set in the Second Five Year Plan. 43/ Nearly four-fifths of the total enrollment in spare-time schools is in primary-level schools. The relative importance of spare-time schooling probably will continue to increase because it reduces the cost of education by making a maximum use of existing school facilities and teachers and by permitting the students to acquire an education while working full time.

Communist China also has waged a major campaign to reduce illiteracy among young adults. Although about 28 million adults allegedly became literate during 1949-57,*** 46/ there probably were still at least 150 million rural illiterates in 1958 between 14 and 40 years of age. 47/ The elimination of illiteracy among young adults is a goal of the Second Five Year Plan, and the pace of the anti-illiteracy campaign has sharply increased since 1958. The program has been implemented through special literacy classes, mutual instruction, and spare-time education. Fantastic claims have been made recently concerning the number of people who have become literate. For

* Table 5 follows on p. 15.

** P. 8, above.

*** The regime also claims that about 40 million illiterates became semiliterate during this period. 44/ Semiliterates can read and write 500 to 1,500 Chinese characters, while literates can read 1,500 or more characters. 45/

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Table 5

Annual Number of College Graduates in Communist China, by Field of Study
1950-60

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	Number of Graduates										
	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Total b/	18,000	19,000	32,000	48,000	47,000	55,000	63,000	56,000	72,000	70,000	135,000
Industrial department	4,711	4,416	10,213	14,565	15,596	18,614	22,047	17,162	17,499	N.A.	N.A.
Agricultural department	1,477	1,538	2,361	2,633	3,532	2,614	3,541	3,104	3,513	N.A.	N.A.
Finance and economics	3,305	3,638	7,263	10,530	6,033	4,699	4,460	3,651	2,349	N.A.	N.A.
Medicine	1,391	2,366	2,636	2,948	4,527	6,840	5,403	6,200	5,393	N.A.	N.A.
Science	1,468	1,488	2,215	1,753	802	2,015	3,978	3,524	4,645	N.A.	N.A.
Education	624	1,206	3,077	9,650	10,551	12,133	17,243	15,948	31,595	N.A.	N.A.
Literature	2,306	2,169	1,676	3,306	2,683	4,679	4,025	4,294	4,131	N.A.	N.A.
Other c/	2,718	2,179	2,559	2,615	3,276	3,406	2,303	2,117	2,875	N.A.	N.A.

50X1

b. From Table 3, p. 11, above.

c. The residual was derived by subtracting the number of college graduates in the specific categories from a rounded total. This "Other" category, therefore, should not be considered as exact.

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example, the regime claims that 66 million persons became literate during the past 2 years 49/ and now alleges also that more than 100 million illiterates have become literate under Communist rule. 50/ Unfortunately for progress, however, many people do not retain their newly acquired ability to read. The regime itself has admitted that large numbers of the new literates have slipped back into illiteracy. 51/

D. Allocation of Resources to Education1. Expenditures

Communist China's drive to train its own managers, engineers, technicians, and skilled workers and to increase literacy among the population is indicated by the rapid expansion of government expenditures on education and cadre* training. These expenditures have expanded from 492 million yuan in 1950 to 3,338 million yuan in 1959 and, according to the planned budget, were to rise to 5,114 million yuan in 1960.** Government expenditures on education and cadre training in 1959 were equivalent to 2.2 percent of Communist China's gross national product (GNP) compared with approximately 1 percent of GNP in 1950. These budget appropriations are disbursed by central, provincial, and hsien governments to three broad types of educational facilities: (a) college-level institutions, (b) primary and secondary schools, and (c) institutions for cadre training. The appropriations cover wages and social insurance of teachers and other employees, educational equipment and supplies of all types, construction and capital repair of educational facilities, and student stipends. Budget appropriations for education and cadre training, however, do not include the expenses of such research organizations as the Academy of Sciences in Peking. 52/ In addition to government outlays, industrial enterprises and rural communes and production brigades provide supplementary support for education.*** For example, some industrial enterprises sponsor full-time study in institutions of higher learning by their workers, 54/ and rural communes and production brigades often provide buildings for use as schoolhouses and pay for the upkeep of schoolhouses.

The year-to-year trend in government expenditures on education and cadre training has been steadily upward except for a slight

* Party and government personnel.

** For estimates of budgeted expenditures on education and cadre training in Communist China, 1950-60, see Table 6, which follows on p. 17.

*** In the period before the formation of the communes, the regime stated that expenditures on primary schools were met partly from local surtaxes or other local levies that were not included in the state budget. 53/

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Table 6

Budgeted Expenditures on Education and Training in Communist China a/
1950-59 and Planned for 1960

	Million Current Yuan										
	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Total	<u>491.5</u>	<u>920.8</u>	<u>1,313.1</u>	<u>2,081.8</u>	<u>2,105.1</u>	<u>2,016.4</u>	<u>2,955.0</u> b/	<u>3,187.6</u>	<u>2,860.0</u> c/	<u>3,338.1</u> d/	<u>5,114.0</u> d/
Education	N.A.	<u>813.6</u>	<u>1,123.1</u>	<u>1,831.8</u>	<u>1,883.3</u>	<u>1,761.0</u>	N.A.	N.A.	N.A.	N.A.	N.A.
College	N.A.	113.5	205.1	425.8	467.5	399.1	626.4 e/	619.6 f/	N.A.	N.A.	N.A.
Secondary	N.A.	139.8	394.4	722.1	743.5	691.0	2,012.7 e/	2,204.3 f/	N.A.	N.A.	N.A.
Primary	N.A.	560.3	499.5	633.4	649.2	649.1					
Spare-time and illiteracy education in industry and agriculture	N.A.	Negl.	24.1	50.5	23.1	21.8	315.9 g/	363.7 h/	N.A.	N.A.	N.A.
Cadre training	N.A.	<u>107.2</u>	<u>190.0</u>	<u>250.0</u>	<u>221.8</u>	<u>255.4</u>					

a. Excluding expenditures on research.

b. 56/c. Derived on the assumption that actual expenditures on education and cadre training were the same proportion of the planned figure (88.8 percent) as actual expenditures for social, cultural, educational, and health purposes were to planned expenditures. 57/d. 58/. The figure for 1960 is planned.e. 59/f. 60/

g. Residual.

h. Derived from the amount spent on culture, education, science, and health and welfare subtracted from total expenditures on culture, education, and social services. 61/

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decline in 1955 and a drop of roughly 10 percent in 1958. The decrease in these government expenditures in 1958 probably resulted from the "leap forward" drive to expand construction and production. At the height of the "leap forward" in the second half of 1958, college, middle school, and in some cases even primary school students worked around backyard iron furnaces and in the fields rather than at study in the classrooms. The large increase in government expenditures on education and cadre training planned for 1960 was in part a reflection of a substantial planned increase in construction of new buildings, but a large increase in operating expenditures of colleges and middle schools probably was also planned.

Student stipends totaled 1,540 million yuan during the First Five Year Plan (1953-57), more than 12 percent of total government expenditures on education and cadre training in that period. 62/ No figures on investment and capital repair outlays have been published, but fragmentary information suggests that these outlays were roughly 20 percent of total government expenditures on education and cadre training during the period 1953-57. The bulk of the government expenditures on education and cadre training, of course, went for compensation of teachers and other employees and for other operating expenses.

Under the present system of financial management of educational institutions, tuition fees and other income received by these institutions must be remitted to the Treasury. With the exception of supplementary support from industrial enterprises and from rural communes and production brigades, all expenses of the educational institutions are covered by budget appropriations. 63/

2. Teachers

School enrollment has expanded so rapidly in Communist China during the past decade that the provision of an adequate number of trained teachers has been a critical problem. Between 1949 and 1958 the number of professional teachers at all levels increased from 930,000 to 2.5 million, 64/ an increase of nearly 170 percent, but during the same period full-time enrollment increased 276 percent. The shortage of teachers apparently was particularly severe in the secondary schools, where enrollment was rising most rapidly. To alleviate this shortage, primary school teachers often were assigned to teach in secondary schools, with little or no provision for additional training. 65/

The sharp expansion in enrollment that occurred in the 1958/59 and 1959/60 school years undoubtedly placed severe strains on the teaching staffs, with concomitant adverse effects on the quality

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of education. Beginning in 1955, however, the secondary schools have graduated annually more than a million persons, many of whom probably could be pressed into service as teachers to take care of the tremendous rise in enrollment in regular primary schools (26 million between the 1957/58 and the 1959/60 school years). Chinese officials claim also that in addition to full-time teachers there were 420,000 spare-time teachers in 1959 and 580,000 in 1960, 66/ most of them probably having had little formal training for teaching.

3. Physical Facilities

School buildings and equipment, like trained teachers, have been chronically in short supply in Communist China. For example, although the number of classes in Nanking middle schools was to increase by 141 in 1956, the province allocated funds to construct only 37 classes; middle school enrollment totaled 31,000 in 1956, but available school buildings could accommodate only 12,000. In Kiangsi Province, some schools had to hold classes on playgrounds. 67/ In 1959, Lu Ting-I reported, "While we [in China] have more than 37 million youngsters of from 13 to 16 years of age, our regular junior middle schools operated on a full-day basis can accommodate only a little more than 7 million pupils." 68/

With the "leap forward" in 1958 the number of schools increased sharply. Thus Communist China reportedly had 950,000 primary schools, 150,000 middle and secondary technical schools, and 1,408 colleges in the 1958/59 school year compared with 550,000 primary schools, 12,500 middle schools, and 229 colleges in the 1957/58 school year. 69/ China also claims that 87 percent of the children of primary school age are now in school 70/ and that every commune has its own primary schools, every hsien its middle school, and every province or autonomous region its college. Although state budget allocations for education increased moderately in 1959, such a large number of schools could hardly have been constructed in a single year. Most of the new schools probably were makeshift affairs established by the communes with whatever physical facilities were at hand. The government has recognized the critical need for new school buildings and equipment, however, and, as shown in Table 6,* has sharply increased the funds allocated to education in the state budget for 1960.

* P. 17, above.

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II. Current ReformA. Provisions

Since 1958 a variety of experiments with the organization of the school system, with the curricula of primary and middle schools, and with teaching methods have been carried out in Communist China.* These experiments apparently have laid the groundwork for a thoroughgoing reform of the educational system. Speeches made by the Minister of Education, Yang Hsiu-feng, and by Vice-Premier, Lu Ting-I, at the Second National Peoples Congress in April 1960 indicate in a general way the nature of this reform, which is to be carried out over the next 10 to 20 years. 71/ The most significant changes are the planned reduction of the period of full-time primary and middle school education from 12 to 10 years and the possible lowering of the school-entry age from 7 to 6. A similar reform apparently also is to be made in the normal (teacher-training) secondary school system, 72/ but the changes (if any) planned for technical and agricultural schools have not yet been indicated. Although a final decision on the form of the new 10-year schools apparently has not been made and experiments are continuing, educational spokesmen now seem to favor a unified school without primary and secondary division. Both Yang and Lu stated explicitly, moreover, that the new school will be expected to graduate students with a level of accomplishment equal to that of present college freshmen. Finally, this change is to be combined with a decrease in the number of hours spent in class and an increase in mandatory physical labor and self study.

The speeches of Yang and Lu indicate that the compression of 13 years of study -- 12 years of primary and secondary schooling and the first year of college -- into 10 years is to be accomplished primarily through a reform of the curriculum. The new curriculum apparently will center around languages, mathematics, and science (in the secondary schools). Courses in these basic subjects are to be modernized and "streamlined" by combining courses and teaching courses at an earlier grade than is now done. Some courses, mostly in the social sciences, probably will be combined or dropped. The speakers at the Congress also indicated other measures considered necessary to achieve the planned compression of the primary-secondary school program. Among these measures are a wholesale revision of textbooks, an upgrading of standards for teacher-training, the provision of audio-visual aids on a large scale, and an acceleration of the boarding school program.

* See I, A, 3, p. 3, above.

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B. Objectives

The speeches at the Second National Peoples Congress make it clear that the two most important motives for the planned reforms are to raise educational standards and to reduce the real costs of education to the state by shortening the period of schooling. Lu admitted that "cultural standards had been lowered in some respects" since the advent of the Communist regime and that much course content in mathematics and science was obsolete. The planned intensification and modernization of the curriculum are aimed at correcting this backwardness. Clearly the most important of the two major objectives, however, is the desire to shorten the period of schooling so as to bring secondary school graduates into the labor force at an earlier age. Under the present system a child who begins school at 7 years of age and completes 12 years of full-time schooling will be 18 or 19 years of age before he is available for full-time productive work. By Chinese Communist standards, however, he is considered to be a "full manpower unit" -- that is, an adult -- at 16 years of age. The regime clearly believes that China cannot afford to permit 16-year-olds and 17-year-olds to be in school when they could be employed productively in the economy instead. Thus, Lu states, "We cannot afford to extend our present senior middle school education to too many persons Should we try [to do this], we would take away too much manpower from production." Besides making educated young people available for work 2 years earlier, the reform, by reducing the number of grades and classes, should help to alleviate the shortage of teachers and of classrooms or, alternatively, would permit these facilities to be used for the education of a larger number of students.

C. Comparison with the USSR

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The USSR, like Communist China, has recently undertaken a major reform of elementary and secondary education. Although the reforms in the two countries are similar in some respects, the Chinese reforms are not mere carbon copies of those now taking place in the USSR. In accordance with the provisions of an educational reform law enacted in December 1958, the USSR is gradually converting its 10-year program of elementary and secondary education to an 11-year program with no change in the school-entry age of 7. The curriculum also is being revised to provide some kind of job training and work experience in all grades. China, in contrast, now plans to reduce the number of years of elementary-secondary education from 12 to 10 and, possibly, to lower the school entry age from 7 to 6. The curriculum in both countries will continue to be heavily weighted with science, mathematics, and languages.

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The planned changes announced by Communist China in 1960 continue reforms started in 1958, several features of which also characterize the educational reforms in the USSR. Thus both countries have revised their curricula to include vocational training so that future secondary school graduates will have had specific vocational experience as well as academic training. In addition, both countries place great emphasis on the expansion of part-time education, particularly at the college level. Finally, the reforms in the two countries stress the critical importance of ideological (Communist) "upbringing" at all school levels. Although China is far behind the USSR in the level of education and economic development, the motives underlying current educational reforms in China seem to be quite similar. Both China and the USSR are seeking to reduce the costs of education by seeing to it that most 16-year-olds to 17-year-olds are at work instead of in school. China intends to accomplish this result by compressing the period of formal schooling, while the USSR seeks to do so by encouraging most elementary school graduates (8th graders) either to enter short-term vocational schools or to take jobs and attend night schools. Both countries also intend that graduates from schools at all levels shall have had vocational training. In the USSR, but not in China, the timing of the reforms is directly related to the need to channel a maximum number of youths into the labor force during a temporary period of sharply declining annual additions to the population of working age resulting from the low birth rates of World War II.

D. Economic Significance

The motivation for the current prospective changes in the educational system in Communist China seems to be primarily economic. The timing of the reform reflects the imperative need for rapidly increasing the supply of skilled manpower in support of China's ambitious program for industrial development.

1. For the Size of the Labor Force

A clear intent of the reforms is to insure that progress toward the goal of universal secondary education does not deprive the economy of needed young manpower. As noted before, Communist China considers a person to be the equivalent of an adult worker when he is 16 years of age. At present, there are approximately 24 million persons 16 and 17 years of age who would normally be in grades 11 and 12 under the present system. Only a small fraction of these young people, perhaps less than 5 percent, is actually attending full-time schools, but this proportion would increase rapidly if the goal of universal secondary education were to be pushed. Under the planned reforms, children who start to school at 6 or 7 years of age will graduate at 16 or 17 years of age and can then be put to work. Thus the expansion

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of secondary education will not progressively deprive the labor force of "adult" workers, as would occur under the present system.

Over the long run the reforms, if successful, will reduce the real costs of education to the state. Because secondary school graduates normally will start to work 2 years earlier than under the present system, the reforms will add 2 years to the working span of the average worker. Furthermore, if the regime succeeds in its objective of obtaining the equivalent of the present 13 years of education in 10 years, it will have reduced the economic burden of education even more.

According to current estimates, the labor force of Communist China is expected to grow from 321 million in 1960 to 345 million in 1964. ^{74/} The planned reforms are not expected to affect the size of the labor force significantly during this period, because the number of senior secondary students who would be directly affected is small, only about 1 million, ^{75/} and because the reform is to be carried out gradually over a period of 10 to 20 years.

2. For Skill and Productivity Levels

The reorganization of education in Communist China probably will have a favorable long-run effect on the skill of the labor force and on productivity. If the reform succeeds in its objectives, young people will enter the labor force from the 10-year schools with the educational equivalent of a first-year college student and also with some work experience. Thus not only will the average new worker bring work experience and more education to his job, but also he will require less training on the job and will become fully productive more quickly. Moreover, as China proceeds with the task of achieving universal secondary education, the proportion of workers with a substantial foundation in the mathematical, scientific, and technical fields will increase -- a development that will add flexibility to the labor supply by facilitating occupational mobility. Finally, if China succeeds in upgrading the quality of secondary school education and in extending it to larger proportions of young people, China will have a much better foundation for training its own technical intelligentsia than it has now.

The pace at which the proposed reform will be pushed and the extent to which it will succeed are matters of conjecture. At the moment the regime seems determined to carry out the reform. The key test, however, will be whether or not the necessary funds are allocated, for a determined endeavor to make secondary education universal and improve its quality will require a large investment in physical facilities and teacher training. If a 5-year secondary education

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(grades 6 through 10) were to be provided for all children, school facilities would have to be provided for nearly 60 million students. 76/ At present, only about 13 million students attend the full-time secondary schools.

Putting the reform into effect will be a complicated and expensive task. Teachers must be trained, new schools must be constructed and equipped, and fundamental changes must be made in the curricula at all school levels. The period of transition to the new system will be difficult for students, teachers, and school administrators. But when the reorganization is completed, Communist China should have a more efficient system of education that more closely meets the needs of the state and the economy.

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