



New and Old Highways in Mindanao

Systematic Building Opens the Wilderness

By M. Kasilag and Jose Lozada

Respectively, Commissioner and Division Engineer for Mindanao and Sulu

M. KASILAG

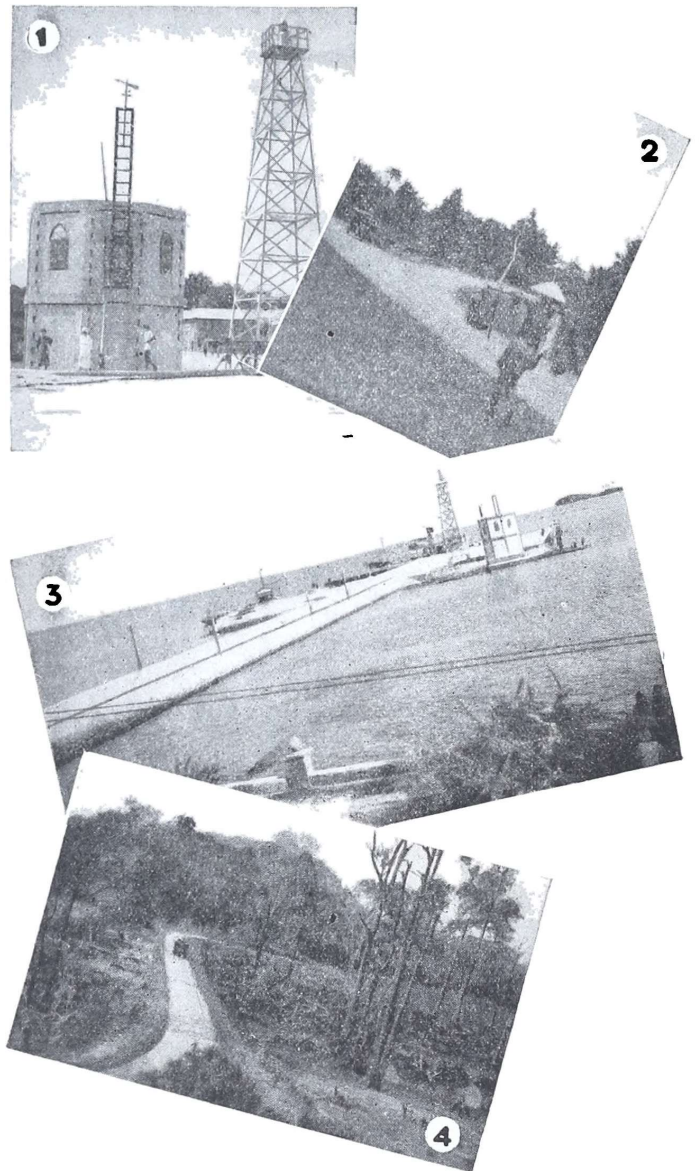
Commissioner for Mindanao and Sulu

The Philippine Archipelago is located just north of the equator, and Mindanao Island and the Sulu Group lie between latitude 5° and latitude 10°, which is a belt outside of the typhoon zone, hence Mindanao and Sulu are free from typhoons. The rainfall is more or less evenly distributed throughout the year. These climatic and atmospheric conditions make this region ideal for agriculture. While in Luzon and in the Visayan Islands the production of coconuts and other fruit trees, hemp and other crops suffer considerable decrease for a year or two after a severe typhoon, the production of the same crops is uniform in Mindanao and Sulu throughout the year. Mindanao has enormous natural resources in the form of fertile soil, abundant water power, large mineral deposits and immense tracts of virgin forests of great commercial value. There are also extensive plateaus of considerable elevation above sea level with pleasant, cool climate and excellently adapted to the cultivation of citrus fruits, avocados, coffee, pineapples, chinchona, hemp, corn and upland rice. There are large areas of pasture lands suitable for the raising of cattle in large scale. All these natural resources, which have hardly been touched, are of such national importance that the Government has for many years been trying various methods to hasten their development.

Before the establishment of the Philippine Commonwealth on November 15, 1935, the Government followed a policy of developing Mindanao and Sulu by establishing agricultural colonies in the different parts of these islands, otherwise known as the Moro Land. Beginning with the year 1913 the following colonies have been established:

Province	Name of Colony	Area in hectares
Bukidnon	Mailag	268
Cotabato	Ladtingan	2,720
Cotabato	Silik	2,708
Cotabato	Paidu-Pulangui	1,380
Cotabato	Maganuy	5,180
Cotabato	Pagalungan	4,475
Cotabato	Talitay	1,719
Cotabato	Glan	1,272
Cotabato	Salumayan	2,534
Lanao	Momungan	2,345
Sulu	Tawi-Tawi	8,000
Zamboanga	Lamitan	3,375
Total		35,976

The Government has invested, as per compilation of statistics made in 1934, a total sum of P937,492.32. The present population of these colonies is approximately 40,000



1. Old Spanish Tower and Lighthouse, Jolo Wharf Approach, Sulu Province.
2. Jolo-Tandu-Batu Road, Km. 7, Balunu-Timbangan road on the left, Sulu Province.
3. Jolo Wharf, Sulu Province.
4. Lamitan Landing Road, Km. 2, (Basilan Island) Zamboanga, Mindanao.

people. The establishment of the agricultural colonies had two principal purposes: (a) political and (b) economic. (a) Politically, they were organized to show that the Christian homeseekers and the non-Christian people of Mindanao and Sulu can live together as neighbors peacefully and congenially. This purpose has been fully and successfully attained (b) Economically, these colonies were organized to hasten the development and cultivation of the large tracts of fertile agricultural land in Mindanao and Sulu, thereby making this region contribute to the general prosperity of the country with the wealth which said tracts of land are potentially capable of yielding. Although much has been accomplished along this line, this purpose has been but partially achieved, in view of the difficulties encountered in administering the colonies and in the failure of a number of the colonists to comply with the conditions prescribed by the Government. The colonists under the law are given advances, either in kind or in cash, to enable them to start cultivating the lands occupied by them, and beginning with the third year of the cultivation of their lands, they should begin reimbursing the Government by installment for the amounts advanced to them. This is the condition which most of the colonists have failed to comply with.

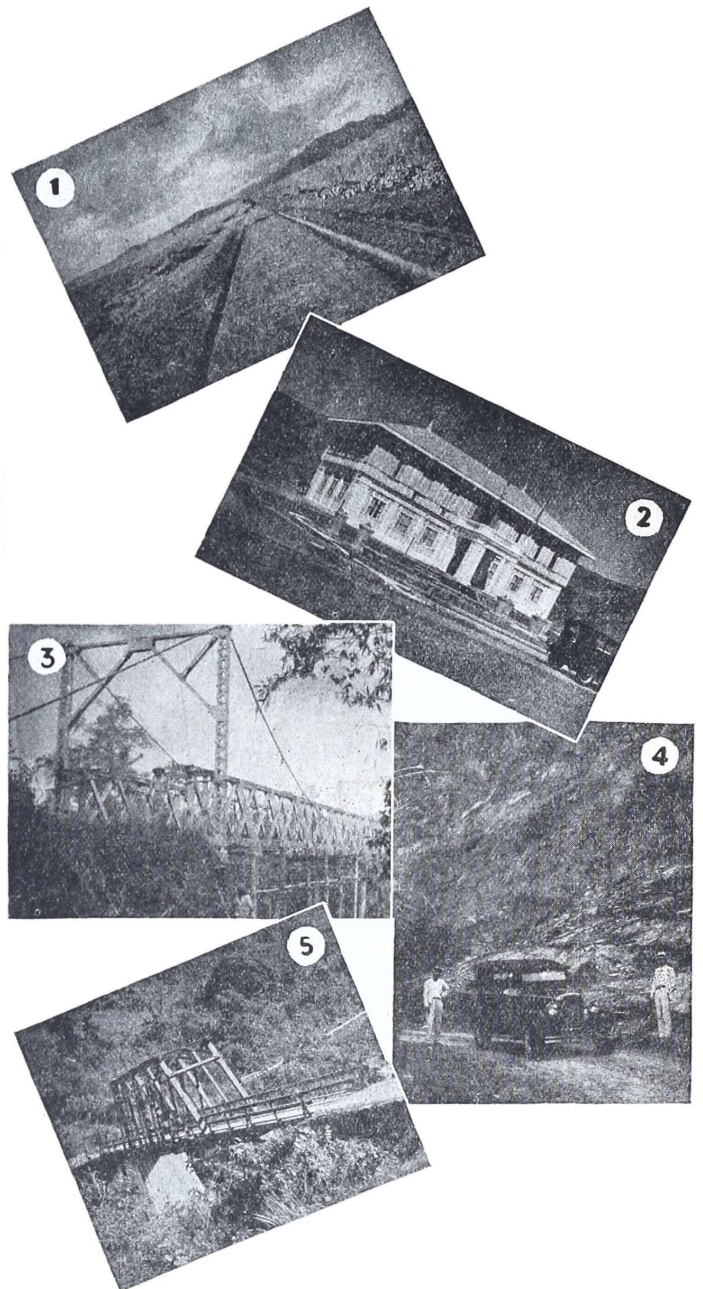
Along with the establishment of agricultural colonies, the Government has also been constructing roads to connect provinces and municipalities and to provide means of communication to important agricultural districts. It was observed that wherever roads were opened through unsettled regions, homeseekers from the thickly populated provinces of Luzon and the Visayan islands emigrated in large numbers and occupied lands on both sides of the new roads at their own expense and initiative. Such a manner of settlement of agricultural lands was illustrated with the construction of a road connecting the municipality of Misamis, province of Occidental Misamis, with the municipality of Pagadian, province of Zamboanga. When the location survey of this road was still being made, homeseekers followed the survey party and occupied lands on both sides of the line, and long before the road was actually constructed, large groups of settlers had already established themselves all along the road, at the places known as Tangob, Bolinsong, Cebuano Barracks and Pagadian. These communities have grown so fast that Tangob in Occidental Misamis, and Pagadian in Zamboanga, have been declared regular municipalities, and the others will also be so declared in the course of a few years.

In view of the encouraging result of land settlement just mentioned through the construction of roads, the Government has changed its policy of colonization to that of building more roads to traverse important agricultural public lands, and in line with this new policy, the National Assembly re-appropriated for road and bridge purposes the unexpended balance of ₱990,000.00 from the fund set aside by Act No. 4197 for the establishment of new Agricultural colonies in Mindanao and Sulu.

Up to the end of the year 1935 there were in existence in the ten provinces in Mindanao and Sulu 943.6 kilometers of first class roads 757.2 kilometers of second class and 384.8 kilometers of third class, or a total of 2,085.6 kilometers of automobile roads. Last year, when the Commonwealth Government adopted the new policy of undertaking more extensive construction of roads, and made available for road and bridge purposes, in addition to the current appropriation of ₱116,500.00, the above-mentioned balance of ₱990,000.00 from the colonization fund, a considerable kilometerage of new roads has been constructed. Liberal allotments for construction purposes were also given last year by the Department of Public Works and Communications from the Gasoline and Motor Vehicle Funds, which together with the aforesaid funds, gave a total of ₱1,939,292.00, and at the end of last year said Department declared 1,024.9 kilometers of the Mindanao and Sulu roads as first class, 784.1 kilometers as second class and 468.8 kilometers as third class, or a total of 2,277.8 kilometers, which represents an increase of 192.8 kilometers of all classes of roads in existence in Mindanao and Sulu over the total kilometerage at the end of the year 1935.

In the Public Works Appropriation Act for the year 1937 the National Assembly set aside the sum of ₱483,505.00 for various road construction projects in this region, and this sum, together with the allotments released from the Gasoline and Motor Vehicle Funds for construction purposes during the first and second quarters of 1937, amounting to ₱407,623.00, or a total sum of ₱891,128.00, has enabled the Bureau of Public Works to continue construction work on the various road projects under way, so that on June 30, 1937, the road kilometerage in Mindanao and Sulu has been increased to 1,034.2 kilometers of first class roads, 876.1 kilometers of second class and 470.6 kilometers of third class, or a total of 2,380.9 kilometers of roads, representing an increase of 103.1 kilometers of all classes of roads over the total kilometerage in existence on December 31, 1936.

In the following table is given a comparative statement of the roads in existence in the different provinces in Mindanao and Sulu during the period from December 31, 1935 to June 30, 1937:



1. Malaybalay south road under construction, Km. 115, Bukidnon.
 2. Provincial Government bldg., Malaybalay, Bukidnon.
 3. Malaybalay suspension bridge, Malaybalay south road, Km. 128, Bukidnon.
 4. Cut road on Km. 44, Malaybalay north road.
 5. Mamgimo Bridge, Malaybalay south road, Bukidnon.

Table of Roads in Existence in the Provinces in Mindanao and Sulu from December 31, 1935 to June 30, 1937

Province	FIRST CLASS			SECOND CLASS			THIRD CLASS		
	June 30 1935	June 30 1937	Increase or decrease	June 30 1935	June 30 1937	Increase or decrease	June 30 1935	June 30 1937	Increase or decrease
Agusan	68.0	68.0	—	28.1	36.2	8.1	4.8	11.2	6.4
Bukidnon	99.7	120.9	21.2	25.9	23.2	(2.7)	55.7	50.8	(4.9)
Cotabato	86.2	86.2	—	89.1	131.0	41.9	56.2	81.6	25.4
Davao	63.9	81.3	17.4	74.1	93.1	19.0	21.8	55.2	33.4
Lanao	52.8	53.4	.6	129.9	141.4	11.5	26.3	29.4	3.1
Occ. Misamis	101.7	125.7	24.0	19.6	9.6	(10.0)	19.4	43.0	23.6
Or. Misamis	163.2	163.2	—	133.0	154.4	21.4	16.5	13.8	(2.7)
Sulu	135.1	137.1	2.0	3.2	23.7	20.5	52.4	42.5	(9.9)
Surigao	105.3	117.7	12.4	40.2	46.8	6.6	79.3	79.7	.4
Zamboanga	67.7	80.7	13.0	214.1	216.7	2.6	52.4	63.4	11.0
Totals	943.6	1034.2	90.6	757.2	876.1	118.9	384.8	470.6	85.8

Hand in hand with road construction activities, the Bureau of Lands is subdividing suitable public agricultural lands and establishing townsites along completed roads and roads under construction. This Bureau has adopted the policy of making subdivisions into lots of six hectares each within the first kilometer on both sides of the road; 12 hectares each, in the second kilometer, and 18 to 24 hectares each, in the third kilometer, which is the minimum limit established by law for such agricultural subdivisions. Beyond the 3-kilometer limits is the zone where sales application or leases for large tracts of land are permitted.

In the subdivisions started last year by the Bureau of Lands along the Cotabato-Davao interprovincial road, hundreds of lots have been disposed of, and they are taken up as fast as they are released for occupation. In the high land sections the settlers usually come from Cebu, Bohol, Leyte, Oriental Negros and Oriental Misamis, as they prefer to plant hemp, corn and fruit trees. The Ilocano homeseekers and those coming from Pangasinan, Nueva Ecija, Tarlac, Zambales, Capiz, Iloilo and Antique prefer to settle in the lowlands where they can develop irrigation systems and plant lowland rice.

Luzon is the largest island in the Philippines, having an area of 105,300 square kilometers and a population of 6,300,000, and Mindanao is the next in size with an area of 98,071 square kilometers and only a population of 1,500,000. Up to the end of 1936, Luzon Island had the following kilometerage of roads:

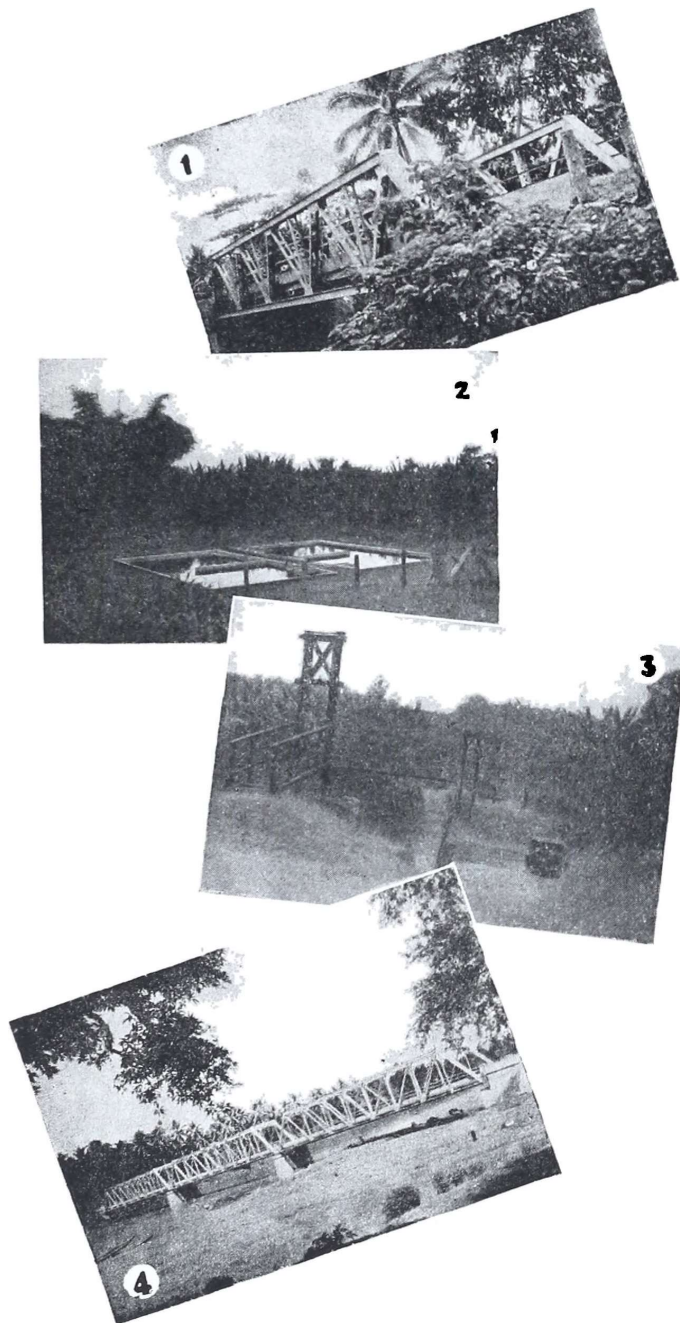
First Class	4,691.5 Kilometers
Second Class	2,464.0 Kilometers
Third Class	926.7 Kilometers
Total	8,082.2 Kilometers

while Mindanao had only:

First Class	1,024.9 Kilometers
Second Class	784.2 Kilometers
Third Class	468.8 Kilometers
Total	2,277.9 Kilometers

Compared with Mindanao, Luzon Island, as indicated by its present population and kilometerage of roads, is relatively well developed, with the exception of the provinces of Nueva Vizcaya, Isabela and Cagayan and portions of Tayabas and Camarines Norte, which still have extensive areas of undeveloped public lands due to the fact that only in recent years interprovincial roads have been completed, or are being completed, to connect these provinces with the road system in Luzon and with Manila, the capital of the Philippines. In order, therefore, to place Mindanao in the same state of development as her big sister Island of Luzon, it will require the investment of as many millions of pesos as have been spent for road work in the Island of Luzon, and the emigration thereto of all the excess population from Luzon and the Visayan Islands. It is encouraging to note that, beginning with our great President, all the high officials of the Commonwealth Government are taking great interest in the development of Mindanao and Sulu. Within the past two years they started to consider the development work of Mindanao and Sulu as a national problem and are now bending every effort to find ways and means to finance important public undertakings, especially the construction of roads. Four Department Secretaries, with their bureau chiefs, have separately made careful inspection of the Moro provinces to study the problems confronting their respective Departments in the development work. Honorable Mariano Jesus Cuenco, Secretary of Public Works and Communications, firmly believes that the most expeditious way to settle and develop Mindanao, and thus eventually solve the problem of excess population in the other parts of the Philippine Archipelago, is by building a network of roads to traverse the extensive agricultural lands in this Island. In a conference he had last April with the Division Engineer and the Commissioner for

(Please turn to page 13)



1. Talomo bridge, Km. 7, Davao south road, Davao.
 2. Davao Waterworks Reservoir and sitting basin, Davao.
 3. Suspension bridge over Digas River, Davao south road, Davao.
 4. Generoso bridge, Km. 2, Davao south road, Davao.

New & Old Highways . . .

(Continued from page 9)

Mindanao and Sulu, it was agreed that the writers of this article should prepare two road construction programs:

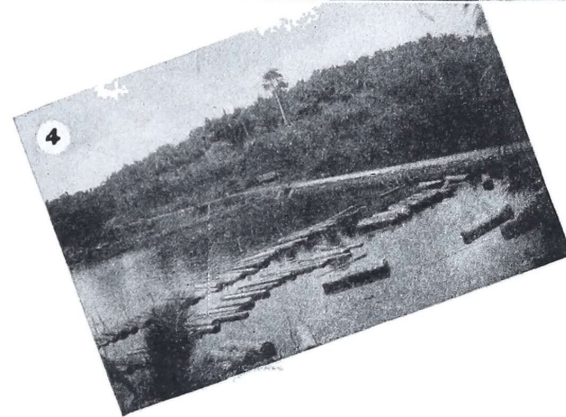
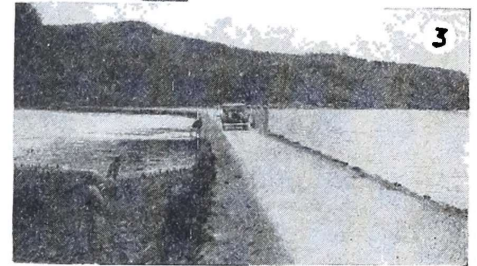
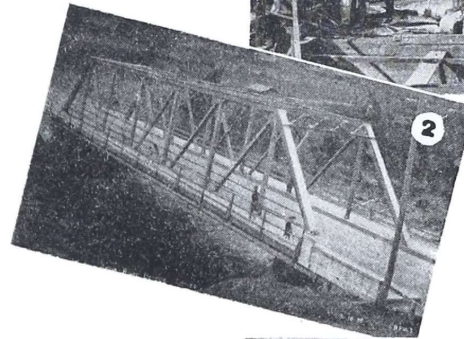
- (1) A two-year program to be financed from the Gasoline and Motor Vehicle Funds, and
- (2) A five-year program to be financed from the excise tax money, or from funds to be appropriated by the National Assembly.

This program aims to complete all the interprovincial roads now under way in the northern provinces of Mindanao.

If the total estimated cost of P23,658,000.00 can be made available from the excise tax of P100,000,000.00, it will permit the complete construction, within five years, including maintenance, of approximately 3,000 kilometers of new second class roads which, together with the existing roads, will give Mindanao and Sulu such a complete highway system that will provide all the transportation and communication facilities necessary for the extensive and intensive development of the natural resources of this region. However, in the event that this total amount cannot all be given at one time, the program can be adjusted in the order of the relative importance of the projects, and construction work can accordingly be undertaken as funds are made available from time to time.

(Please turn to page 34)

1. Misamis-Tanyag road, Km. 47. Misamis Occidental.
2. Agus River bridge, Lanao.
3. Binuni Causeway, Km. 18. Mambayao-Sagay road, Oriental Misamis.
4. Tugar Causeway on Km. 46. Lanao.



Read

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his chapters carries out Milton's allusion in some detail, yet need not escape us; if it is a bit harsh, surely it is not mystifying.

Laboratorially specific as *Eyeless in Gaza* is, it is not depressing. It shows that man strives and nothing ever comes of his effort, but at the same time you are left inklings of hope that all this strife is worth while. This is not tossing a beggar a bun. For it is believable—truly, in our time as possibly never before, thanks perhaps to the emancipation of woman, that the cortices of our brains can be more deeply set with understanding, and that man, Oxonians and Upper Middle Classers eminently included, can evolve a formula of conduct that will make life tolerable, if not comprehensible.

Not another word on this, however. Huxley's book is rugged with reality and must not be smoothed out.

I know, I think, about the blinding of the slaves at Gaza—an allusion Milton must have had from the bible. At least I know that when they harness an ox to a sweep, they cap a blinder over his near eye to prevent his becoming dizzy, eventually dazed and finally mad. If the Philistines blinded Jewish slaves at the mill of Gaza, it had, beyond doubt, a simple

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exploits pineapples, there is room for expansion of that industry. Jesuits grew and bought prices in Mindanao centuries ago; they were the missionaries down there, and in Ternate of the Spice Islands, and the commerce interested Zamboanga as well as Ternate. If spices can be revived profitably in Mindanao, this should be tried. Certainly there is room for the African palm.

In new plantations it ought to be determined whether coconuts should be grown, or African palm. We have it on good authority that 82% of the palm oil exported from Sumatra last year was sold in the United States and used largely in the manufacture of galvanized iron. What Sumatra can do, Mindanao can do—possibly to a little better advantage. At least, experienced men say Basilan produces plantation rubber at the lowest cost in the world. Coconuts and rubber in separate stands on the same plantation have been very satisfactory on Basilan, coconuts arriving at production age somewhat earlier than rubber, and the two rivaling one another as to net profit, depending on the relative market demand for them and on the effectivity of the price-pegging and production-pegging authority in the dominating British-Dutch field of Malaysia.

To sum up: a thorough-going road system in Mindanao will be greatly beneficial to the Islands if activity goes no farther, while it will be infinitely more beneficial if activity extends to manage agriculture embracing tropical products America requires in addition to the copra, hemp, tobacco and sugar the Islands have heretofore had to sell.

New & Old Highways

(Continued from page 13)

In the preparation of the five-year program, the contemplated plan of constructing a railroad from the city of Davao to the port of Cagayan, Oriental Misamis, was not taken into consideration. It is understood that this proposed railroad will utilize for its power the great potential energy stored in the Maria Cristina Falls in Lanao province and in the Polangui river flowing between the provinces of Bukidnon and Davao. Should this railway project be carried out it will have to be supplemented by roads as feeders, and our five-year program will have to be revised to avoid the construction of roads paralleling the railroad and thus prevent the destructive competition for traffic, such as now exists between the railroad companies and the motor truck transportation companies operating in the islands of Luzon and Cebu. If this proposed railroad is constructed, it will necessarily require as its complimentary service the operation of fast boats between Manila and Cagayan, Oriental Misamis, so that the time of travel between Manila and Cagayan de Misamis could be reduced to about 24 hours, and in conjunction with the proposed railroad, the travel between Davao and Manila can be accomplished within 30 hours.

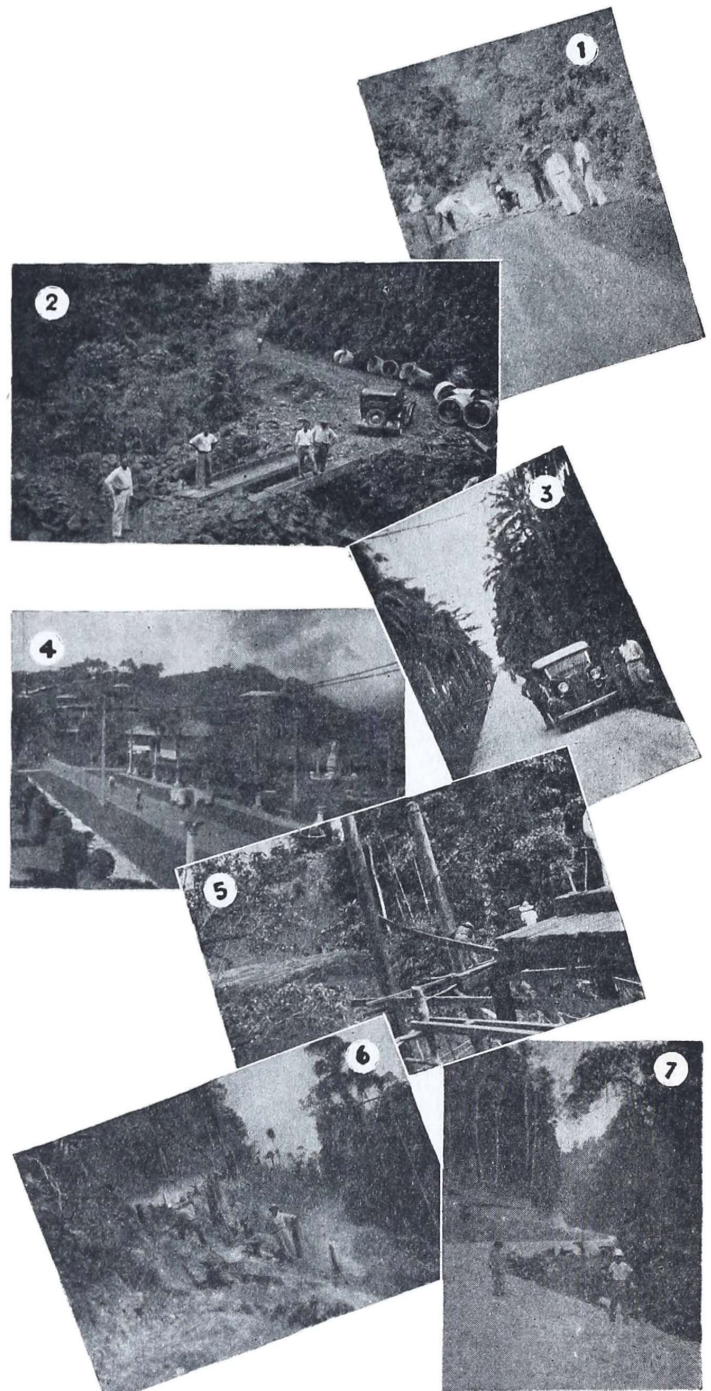
The latest step taken by the Commonwealth Government in connection with the policy of developing Mindanao and Sulu as rapidly as possible, was the creation of the position of Commissioner for Mindanao and Sulu by the passage during last year's session of the National Assembly of Act No. 75. This Act provides among other things that, "besides his administrative functions, the Commissioner shall also be charged with the duty of directing the general development work in Mindanao and Sulu". Subsequently, His Excellency, the President, appointed, on January 1, 1937, the present Commissioner for Mindanao and Sulu, who is a civil engineer, with station at Dansalan, Lanao, which has been declared as the capital of Mindanao and Sulu by reason of its easy accessibility from the different provinces therein. One of the important functions of the Commissioner is to prepare in conjunction with the Bureau of Public Works road construction programs and to supervise the execution of such programs.

The Agusan river in the province of Agusan, which extends as far as the province of Davao, and the Cotabato river in the province of Cotabato, are both navigable for good-sized

launches for long distances into the interior. By improving their condition of navigability they can be developed into cheap arteries of communication for transporting freight.

Along with road construction programs and the construction of the proposed railroad, the Government should encourage the establishment and maintenance of an efficient air service between Luzon, the Visayan islands and Mindanao, even to the extent of subsidizing it or, if necessary, the Government should operate its own air line.

The foregoing forms of transportations—roads, railroads, water and air—are all destined to play very important rôles in the rapid settlement and development of Mindanao and Sulu.



1 & 2. Cotabato-Lanao interprovincial road, Km. 37.

3. Port Pikit, Daito-Palangui road, Km. 15, Cotabato.

4. Plaza at Cotabato, Cotabato.

5. Taracan bridge under construction, Km. 48, Cotabato-Lanao interprovincial road.

6 & 7. Tamontaka-Upi road under construction, Km. 12 & 13, Cotabato.