

be obtained. Drilling might be tried to obtain a supply for the adjacent town of Anse Rouge. (See p. 591.) The water of deep wells in this area may be salty, for it is not at all certain that the original sea water in the deep beds has ever had a chance to drain away. Well water, if obtainable would not be sufficient for very extensive irrigation, as the rainfall is scanty and the recharge is probably small.

Shallow wells might possibly supply water for domestic use at some places, although no really favorable locations were noted. In the higher parts of the plain, where the alluvium is coarse and porous, the water table probably lies very deep, and in the lower areas the surficial beds are compact and probably not very porous.

TROIS RIVIÈRES VALLEY AND JEAN RABEL VALLEY.

The Trois Rivières Valley and Jean Rabel Valley include all the valley of Les Trois Rivières from Gros-Morne to Port-de-Paix, the immediate valley of Rivière de Jean Rabel, and a connecting lowland near the coast extending from Port-de-Paix to Jean Rabel. The region as a whole gets only scanty rainfall, and much of the lowland between Port-de-Paix and Jean Rabel is semiarid. The surface of the region is broken. The valleys are rather narrow and have steep sides, and the areas of level land are small and discontinuous.

The two rivers mentioned are the only large streams. Rivière de Moustique, about midway between them, is small and is usually dry during part of the year, but it is subject to terrific floods. Les Trois Rivières is the second largest stream of the Republic. Rivière de Jean Rabel flows throughout the year but is not included in the streams listed on p. 34.

The French colonists irrigated small patches of land along Les Trois Rivières, especially near Port-de-Paix, and a few small tracts near the river between Gros-Morne and Port-de-Paix are irrigated at present. No irrigation was practiced in colonial days on the lowland west of Port-de-Paix and little if any at Jean Rabel, although very fertile fields in that locality are irrigated now. The intervening lowland between Jean Rabel and Port-de-Paix was not visited by any of our party, and the statements here made regarding it are based either on inference or reports. The region is very much like the Arbre Plain with regard to its surface and underground features, but it receives somewhat more rain.

There is abundant water in Les Trois Rivières to supply all the land in its valley that is favorably situated for irrigation, and perhaps a good deal of that in the lowland to the west. The Rivière de Jean Rabel probably could serve more land, particularly by storing flood water, for which purpose good dam sites could probably be found.

The French colonists proposed a plan for diverting the headwaters of Les Trois Rivières into La Quinte in order to irrigate land near Gonaïves.¹

¹ Moreau de St. Méry, *op. cit.*, vol. 2, pp. 95-96.

Apparently the plan was to dam up and divert the water at a place called La Porte, between Gros-Morne and Pilate, where Les Trois Rivières passes through a steep-walled gorge that is said to be 64 meters in depth, but a rather careful survey is said to have shown that the divide into La Quinte basin was considerably higher than the gorge, and the plan was abandoned. This plan may be worthy of further investigation.

There are some shallow wells in the area, but ground water generally is not much used. The region is underlain by Miocene and older rocks that generally dip seaward, and artesian conditions probably exist at some places, but wells drilled at such places probably would not furnish large supplies.

NORTH PLAIN.

SURFACE FEATURES.

The North Plain slopes very gently seaward, its altitude at the base of the mountains that border it on the south being generally from 50 to 100 meters above sea level. Although its relief is small, it has a variety of surface features, and large parts of it are considerably dissected. The best agricultural land is around Limonade and Quartier Morin and west of those places and is rather smooth, including only a few hills, which are low. Large bodies of level land are found also in the northeastern part of the plain. The annual rainfall over most of the plain probably averages 1,500 millimeters and at some places is more. This is considerably greater than the rainfall on most of the lowlands of the Republic and the difference is due to the position of the plain on the windward side of the most northerly mountain ranges.

STREAMS.

The North Plain is crossed by several streams that originate in the mountains to the south. The largest of these streams, named in order from east to west, are the Rivière Massacre, Rivière Marion, Rivière du Trou, Rivière Fossé, Grande Rivière du Nord, and Rivière Haut du Cap. The Grande Rivière du Nord is the only one of these that is listed among the large streams of the Republic (p. 34). In addition to the larger streams there are some smaller ones, which originate in the mountains and generally disappear on the plain. According to Moreau de St. Méry, there are also a few streams, such as the Rivière des Mapoux, that originate in springy and marshy areas on the plain.

UTILIZATION OF WATER AND FLOOD CONTROL.

In colonial days and at present, agriculture on the plain seems to have been carried on almost entirely without irrigation. In normal or wet years the natural rainfall produces abundant crops, but dry years are