

## Land forms of alluvial river flood plains

Alluvial River is that kind of river of which the constituent material and the material transported by the river is the same. In other words the alluvial rivers are those rivers whose river bed and sides are formed due to the accumulation of the sediments transported by them. Bangladesh as a whole is a big alluvial land.

There is a vast tract of land surrounded by higher plane at the sides. The higher region is called blatt and the vast mid region is called flood plain. The river through the vast area in different direction at different times. The river movement is bounded by blatt. If flood occurs and water overflows the sides then the water all through the mid region but within the blatts. Bangladeshi land is such kind of flood plain. the upper layer of the earth crust in Bangladesh is made of loose soil. So the river flows different times in different direction. As a result Bangladeshi soil type is made of alluvium transported by the river during flood. So Bangladeshi land form is an alluvial flood plain and very suitable for agricultural production. When the rivers flow from the upstream side to the downstream side (towards Bangladesh) the water carry a huge amount of different minerals those account for fertility of the soil.

When water overflows during flood then the water come to the flood plain and a huge area is flooded. If we want to protect the lands we must have bluffs , may be natural or artificial.

The rivers flowing in zigzag way are called meandering river. Most of the Bangladeshi rivers are meandering rivers. The course of changing flow direction is very easy and frequent. So,

Comment [U1]:

So these rivers contribute to deposit alluvium at different zones those consist this alluvial flood plain.

When the river changes its direction it forms one kind of neck. This called a meandering neck.

The upstream and downstream points of the river are adjacent. But they traverse a curvilinear path to reach from upstream to downstream. But water follows the path of lowest energy. So by the course of time the two points meet and become isolated from the mainstream. At prior to disconnect the neck like portion is called meander neck. When this portion is detached from the mainstream we call this a cutoff. When the lake like cutoff is disconnected at some point we call it oxbow lake. This flood plain has many sub plain which were formed recently or in the past. The recently formed are nearer and those formed at past are farther from the main stream. Those exist as a distorted water body we call them a swamp. The further are called back swamp. Different depressions, pond, lake adjacent to the rivers are example of oxbow lake. During the flood alluvium are stored in large amount at the sides of the river.

So the sides are naturally high. This higher zone is called levee. As it is naturally formed it is called natural levee and they help to protect flood. Actually the sides of the river don't help to prevent flood.

It is the bluffs which help to protect flood.

Drainage pattern

Stream Order (Unit):

Stream Ranking (Process):

Stream ranking is very important to build water controlling structures such as dam, slues gate etc. it is also important for policy making. Such as if we construct a dam at the order 3 rivers we can safe a large area.

Prove that he stream network follow the rules of stream number or stream length.

Use semi log graph paper stream order in the normal case and no. of stream or mean length on the normal case.