**Highway Bridge and Valley Regeneration**

*Nigel Barbieri*

An infrastructural project to regenerate *Wied Blandun* and to provide an efficient transportation link between the towns of *Paola* and *Fgura*. The existing *Vjal it-28 ta’ April* is removed and replaced by an overlying bridge so that the valley floor can be rehabilitated. These alterations will connect the valley on the right-hand side with the existing public garden creating a large green public space. The bridge layout has dual carriageways on both sides, separated by a central reserve which serves also as a lightwell for the valley under the bridge deck. The pedestrian lane on either side widens up along the main span beneath the arch providing a panoramic platform. A combination of different structural systems work together to fulfil the site limitations and to span over the valley without any intermediate supports. The main span of 139m hovering above the valley bed is suspended from a parabolic arch using cable hangers while the rest of the bridge is divided into smaller spans of 15m resting on top of intermediate piers. Finally, at the ends of the bridge an abutment is constructed holding back the backfill and supporting the deck. The deck is composed of a box girder, consisting of a series of longitudinal webs resting over a transverse box girder which in turn is supported by the cables or the piers accordingly. An orthotropic deck is used where the flange plate is stiffened transversely and longitudinally. This configuration allows the wearing course to be placed directly on top of the steel flange plate, hence reducing the deck weight.