

The analyzed outcome shows that the applicability of the NECS in poor rural areas of southwest China is relatively low. A quarter of the indicators are not applicable to these cases. RBESAS showed great superiority in the applicability of these cases. Almost all RBESAS indicators are applicable for the case villages because this indicator framework has been established according to the existing situation of rural southwest China. The system considers the entire built environment, including buildings, infrastructures, and production facilities.

On the other hand, the sensitivity of the NECS is relatively low. According to the assessment outcome, the performance of Case I is the poorest. Case II is slightly better than Case I, and Case III is slightly better than Case II. However, the difference among these three cases is relatively minimal. All the three cases are unable to meet more than 50% of the indicators. The RBESAS can distinguish clearly the different advantages and disadvantages of the three cases and recognize well the significance of endogenous development model. The outcome of analysis shows that the sustainability of Case I is slightly better than Case II because the latter has less consideration on energy and economic self-reliance, local culture, and public engagement. The sustainability of Case III is better than Cases I and II. Case III improved rural living environmental quality without posing damage on the environment and entailing high costs, and preserved the local culture. Moreover, villagers felt that they are the real masters of their home land because they were fully engaged and empowered during the reconstruction.

4. CONCLUSIONS

Having a comprehensive understanding of built environmental sustainability of poor rural areas is one of the significant steps to solve the problems between rural development and environmental conservation in southwest China. The results of this study show that RBESAS provides an appropriate indicator framework of built environmental sustainability assessment system for poor rural areas of Southwest China. First, this framework was established based on the concepts and theories of sustainable rural development and sustainable architecture. Second, scope and issues of this system were established according to the existing situation of poor rural areas of southwest China. These ideas ensured the scientificity and adaptability of the assessment system, and were more suited for rural areas that follow the endogenous development mode. RBESAS indicator framework also appropriate to other rural areas which follows sustainable development paradigm. More specific research needs to be done to identify evaluation method of each indicator according to local situation of different rural areas.

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