

of the system to complete optimized combination of various factors of the system, thus achieving fundamental restructuring of the system.

Generally speaking, integration and reconstruction is based on the background of rural transformation, a system and methodology which adapt to the structural adjustment. The fundamental point is: To solve the problem efficiently, it is important to expand the system to the greater one so as to seek the appropriate means.

As far as caves' existing disadvantages and limitations are concerned, the technological transformation of caves mainly involves the following aspects: Change the blind state of caves being built by different households to a unified planning of caves. Unified planning will ensure the land can be economically used. Secondly, introduce new technologies and methods to reinforce the main structure of caves (including the use of modern materials such as brick, stone, cement, steel, glass, etc.); set up the ventilation chimney, ventilation suspended ceiling or trench to solve moisture and ventilation problems; Enlarge the windows to increase lighting area; Paint the wall white to increase reflective efficiency, and improve indoor decoration; Make full use of natural energy such as solar energy; plant vegetation on the roof to prevent soil erosion, etc..

It is recommended to obey the following principles (Qi, 2005):

1) Harmony principles: to establish the right relationship between man and nature. Respect the nature, treasure the nature, protect the nature, change the original natural environment as little as possible to achieve sustainability;

2) Economic principles: the efficient utilization of energy, the full utilization of resources and recycling, and to reduce the consumption of resources;

3) Geographical principles: encourage the continuation of cultural and local customs; make full use of local materials; combine geographical climate, topography, and geographical human environment to create a more beautiful and comfortable environment of small towns;

4) Safety principles: ensure the safety of the daily life at the same time we must also consider the safety of unexpected circumstances, such as fires, earthquakes, floods, etc. Some disaster prevention facilities and places of refuge must be provided;

5) Convenience principles: provide convenient service to the residents, such as the matching service facilities, and transportation;

6) Comfort principles: within the region, guarantee the quietness, clean air, appropriate space, ample sunshine and the occupants' green environment for respiratory activities.

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