Recommendations

i. From the estimates made by the researcher under alternative assumptions, it was revealed that even under the worst alternative, the average annual requirement of burnt bricks in Kerala will be above 200 crores of which the present contribution from the tile factories is only about 3-4 crores. Hence the industry in the state can diversify into the production of burnt bricks.

ii. While diversifying into the production of burnt bricks, preference should be given for the production of low cost bricks such as hollow brick, sand brick, terra cotta, mud block etc.

iii. The tile factories can also produce sewage pipes, floor tiles etc. without altering the present structure. Current production of sewage pipes is not sufficient to meet the demand. Similarly, well polished floor tiles are substitutes for mosaic tiles.

iv. Low cost housing technology such as 'Baker Technology' is becoming popular in Kerala in recent months. Hence the industry can diversify into the
production of various materials required for low cost houses.

v. Clay is becoming scarce. Therefore attention should be diverted for discovering new forms of raw materials such as ash, sand etc.

vi. The quality of the product depends on the quality of clay. But clay testing facilities are not available at Trichur, Alwaye and Quilon regions where about 75 per cent of the tile factories are located. A handful of units only have the facility at Calicut region. Hence clay testing facilities should be immediately provided. Even the government can provide these facilities in the engineering colleges at Calicut, Trichur and Quilon.

vii. Measures should be strengthened to make available the sanctioned quota of firewood to the tile factories.

viii. Just like clay, firewood is also becoming scarce. Hence fuel substitution is also important and the best alternative is lignite (found suitable after repeated testing) which is easily available from Neyveli Lignites, Neyveli, Tamil Nadu. Even after
considering transportation cost, lignite is found to be cheaper compared to firewood.

ix. Majority of the tile factories are not getting the sanctioned quota of oil. Remedial measures in this direction are welcome.

x. Even though storing of inputs is desirable, excess stocking is not advisable. Stocks can be kept at optimum only through scientific materials management.

xi. Just like providing clay testing facilities, product testing facilities should also be made available to ensure the quality of the products.

xii. Majority of the factories use outdated technology and aged old machinery. Technology upgradation and modernisation are important for a better future. For instance, fuel efficiency can be achieved if Hoff-man type kilns are introduced. Similarly, the present system of sun drying of tiles can be replaced by installing solar panels at very low cost.

xiii. Modernisation attempts presuppose the easy availability of finance. Hence the government and other
financial institutions should make provisions for providing finance to the tile industry. Commercial banks should come forward to sanction loans at concessional rates with liberal terms as they are doing in the case of agriculture.

xiv. During the course of the survey, the researcher observed that majority of the tile factories do not have the practice of keeping proper records. Thus the accounting system in the factories should be strengthened through proper and timely audit, inspection etc.

xv. The home market for tile industry products can be widened if the Government of Kerala directs at least the government sponsored housing schemes to use the tile industry products only in the construction process.

xvi. It was also noticed that unhealthy competition prevail among the regions. This trend can be stopped if a common marketing agency is formed.

xvii. The government should extend tax concessions and other reliefs to promote external domestic sales.
xviii. The government should immediately stop the practice of issuing license for new factories when about 340 units struggle to survive.

xix. Diversification process can be encouraged if tax holiday and other incentives are declared for factories going for diversification.

xx. There are large number of factories in the state struggle to survive due to financial and marketing problems. The government should declare these units as sick units and do everything possible to give life for them as the government did in the case of textile industry.

xxi. The government may constitute an Advisory Board exclusively for tile industry.

xxii. As in the case of other traditional industries such as coir, cashew, beedi, etc. the government may form a Welfare Board for the welfare of the workers employed in tile factories.

xxiii. At present the workers in the tile factories are not properly segmented. Classification of workers into different categories such as skilled, unskilled etc. are important for achieving efficiency.
xxiv. The problem of lack of skilled persons in the tile factories can be solved by starting diploma or similar courses in tile technology in different polytechniques in the state.

xxv. The Small Industries Service Institute and District Industries Centres can extend training facilities both for managers and workers of tile factories.

xxvi. Research and Development (R&D) facility should be made available in the state. At present this work is partially done by Regional Research Laboratory, Trivandrum.

xxvii. The government, Small Industries Service Institute, District Industries Centres and Tile Manufacturers Associations should come forward to inform and popularise the new developments in tile technology through various media.

xxviii. A major hurdle in the prosperity of the tile industry in Kerala is the lack of entrepreneurship. So the government should launch different incentive schemes for creating dynamic and enterprising attitude among the owners and managers.
xxix. Certain earlier committees also recommended many measures, but only a few were implemented. Therefore, the owners and associations should come forward to implement the recommendations of expert committees and studies instead of giving a 'patient hearing' alone.

xxx. Scientific inventions and discoveries are flowing day by day and the entire technology undergoes revolutionary changes where housing technology is not an exemption. Also clay deposits and firewood reserves are getting exhausted. Hence the industry can survive after 20-25 years (2010-2015 AD) only if there is raw material substitution, fuel substitution, product innovation and replacement of plant and machinery. This highlights the need of a 'perspective plan' for the industry.