

# Research on Toothbrush Trees Leading to the Social, Environmental and Business Ideas

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**Abstract** - *Salvadora* or the toothbrush tree (miswak) originates from Pakistan, India, South Africa and West Asian countries. The fibrous branch is packed in a pen-shaped holder, as an innovative form and marketed internationally. This prophetic and endangered, medicinal plant genus is promoted by the World Health Organization. The extracts are now extensively used in dentistry. The products are manufactured in pharmaceutical and cosmetics industries, as the toothpaste, tooth gel and mouth rinse. In this study, a literature search on *Salvadora* is conducted. Both miswak articles and products are available online. The journals on *Salvadora* were systematically reviewed. Here, a parallel update of this natural resource, plus its business and entrepreneurship, are presented. A clinical trial was performed to investigate the effect of mouth wash, extracted from *S. persica* on dental plaque formation. The antiplaque efficacy of the miswak mouth rinse, in comparison to that of chlorhexidine, was recently published. Meanwhile, the chemistry of *S. oleoides* was studied. A number of molecules were isolated from various parts of the plant, including the leaves, seeds, stems and roots. They consist of salvadorin; a dimeric dihydroisocoumarin, phytosterols e.g. *beta*-sitosterol and its glucosides, fatty acids, essential oils, salvadoricine; an indole and the sulfur-containing organic substance, known as salvadoside. Nevertheless, artifacts could be produced, following the alcoholic extraction of *Salvadora* species. Attempts on the synthesis of analogues of *Salvadora* alkaloid were also made. It is anticipated that more research could be carried out for the economic benefit of this plant.

**Keywords** - business, miswak, products, review, *Salvadora*

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