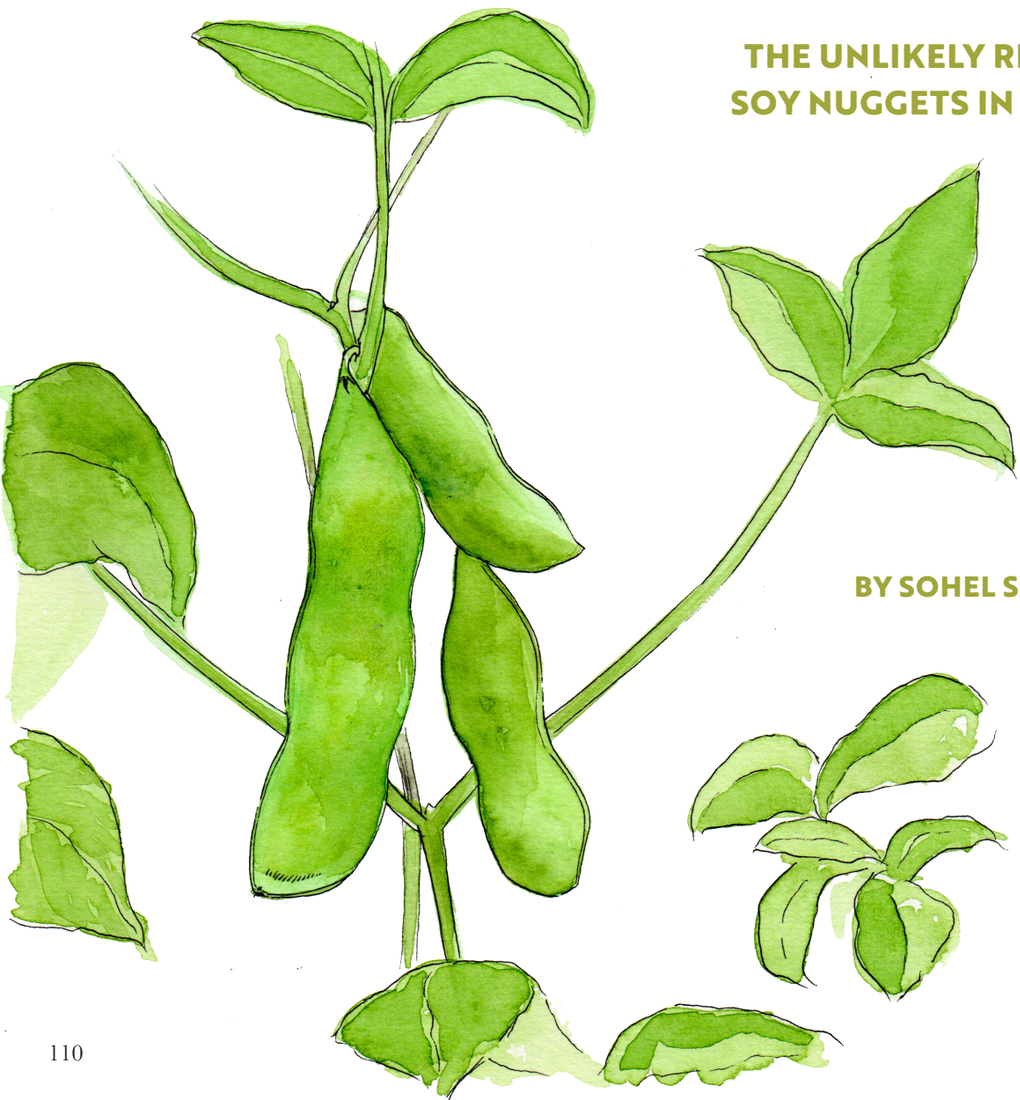
WAR, GOD & GANDHI

THE UNLIKELY RISE OF SOY NUGGETS IN INDIA



BY SOHEL SARKAR

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It is perhaps a lesser-known fact in the annals of history that nearly 2.5 million Indian soldiers fought as part of the British military forces during the Second World War. Even as colonial machinations sent Indian soldiers to far-off countries in Africa, the Middle East and Southeast Asia, as well as to Italy, to fight a war in which they had little stake, the question of what to feed their swelling ranks became a cause for concern. Hindu religious strictures forbade beef, Islam placed injunctions on pork, and Sikhs could only eat meat that was slaughtered in a specific manner. To avoid these meaty complexities, British commanders defaulted to a food that had become a crucial part of Britain's wartime diet: canned chunks of processed and textured soy protein based on soybean flour from which the oil was removed.

The effort, however, was a disaster. Despite the divergent dietary requirements of the Indian troops, all were united in their dislike of textured soy. We don't know for certain why, but we can guess. To date, the most complimentary account of the taste of the factory-processed soy chunks would describe it as bland. Decades later, resourceful Indian home kitchens would learn to flavor these insipid chunks with a host of spices and other ingredients. But it's hard to imagine that the canned chunks distributed among soldiers in the trenches of the Second World War had the benefit of spices.

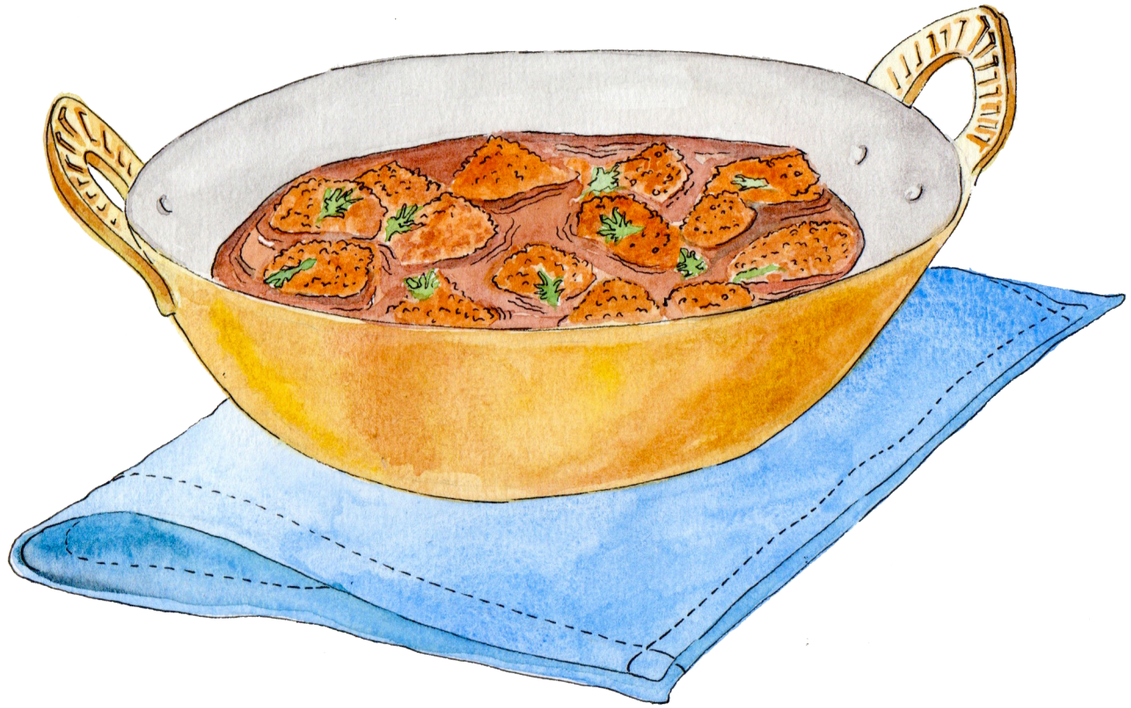
While the soldiers rejected the processed soy, it's possible to speculate that at least a few of them may have had some prior knowledge of soybeans, the East Asian

legume from which soy chunks are processed. After all, soybeans had existed in isolated parts of India for centuries, carried to the subcontinent by the many tendrils of trade and colonialism. Commerce along the Silk Road likely brought soybeans from China to the foothills of the Himalayas in the north and the northeast parts of India. Indigenous communities in these regions had their own vernacular names for it—*bhat, bhatman, bhatmas, ramkulthi, garakalay* and *kalitur*—and their folklore reveals that the beans were most likely eaten fermented, similar to the Japanese *nattō*.

Soybeans reached more southern parts of the country much later—the first recorded mention of a soy product in this region comes in a written order for soy sauce from Japan (amongst other items) to be sent to the Dutch colonies in India and Ceylon (present-day Sri Lanka) in the mid-1600s, and eventually soybeans themselves arrived from Japan, southern China, and Southeast Asia. The earliest recorded history of soybean cultivation in India dates back to 1798 when seeds that were likely brought in from the Dutch East Indies (today's Indonesia) were grown in the Calcutta Botanic Garden.

Interest in commercial cultivation in India emerged in the early 1900s, triggered in part by global geopolitics. During this time, wartime food shortages, and specifically the rising scarcity of meat, had prompted an interest in soybeans throughout Europe. During the 1904-05 Russo-Japanese conflict both the Japanese and Russian armies kept their troops largely fed on soybean products, demonstrating that the plant-based protein could sustain armies as well as meat did. Taking its cue from this war, in 1907 Britain began large-scale imports of soybean-based foods from Manchuria in China, the world's largest soybean growing region at that time. Other European nations quickly followed suit. To shore up resources in the lead-up to the First World War, European colonizers also started experiments with soybean cultivation in the tropical climes of their respective colonies. In India, the agricultural department of the British colonial government started soybean cultivation trials as early as 1911.

Influenced by some of these developments and guided by the research that began circulating as a result, many prominent figures took up the cause of soybean promotion in India. Maharaja Sayaji Rao Gaekwad of Baroda was the country's first known 'soyfluencer'. In keeping with a general historical precedence of royal patronage for agricultural and scientific innovations alongside the arts, and following the example of Chinese emperors, he held a royal soybean planting ceremony in 1933, and organized multiple exhibits of soybean-based foods dishes from India, Europe and China. The Maharaja's patronage of soy was largely supported by the work of F.S. Kale, who held charge of the Food Survey Department in the state of Gujarat and conducted regular experiments with growing soybeans. Kale's work with soybeans spurred the interest of agricultural departments of other provinces and states who flooded him with requests for literature about soybeans or made specific enquiries about equipment for making soymilk. When Kale's own knowledge fell short,



he went on a research trip sponsored by the Maharaja to several European countries and the USSR to study the latest developments in soybean-based foods. Once back in India, he published the country's first book of soy recipes in 1936 and shortly thereafter opened a soy-based eatery, called the Soya Bean Preparation Restaurant, in Baroda.

Around this time, the anticolonial nationalist leader Mohandas (Mahatma) Gandhi also began to advocate for soybeans as a source of low-cost protein. A staunch vegetarian, Gandhi had many soybean inspirations to draw from. One was likely the popular writings of John Harvey Kellogg, who is best known for developing the breakfast cereal cornflakes. As a Seventh-Day Adventist, Kellogg, like Gandhi, was firmly against meat eating and dedicated much of his life to researching and developing soybean-based foods. Another is probably the model of Narhar Bhave, father of the nonviolent anticolonialist thinker Vinoba Bhave, who apparently ate six ounces of cooked soybeans daily. Inspired by this example, Gandhi began to champion the nutritional value of soybeans as part of his broader reformist stance. "Let those who are interested in food reform from the poor man's point of view, try the experiment," the nationalist leader wrote in his weekly *Harijan* newspaper. In another column, he described how soybeans were served at his Manganwadi ashram: soaked for a few hours and cooked well followed by the addition of a little salt and linseed oil for flavor. He also published a list of recipes sent to him by an (unnamed) American friend. These and other frequent written encouragements by Gandhi produced a wider curiosity about soybean-based foods in India that extended beyond its royal patrons and the agricultural department of the colonial government.

Then came the Second World War and on its heels a spate of famines that shattered India's agroeconomy. The most devastating of these, by far, was witnessed in Bengal where three million people died as the colonial government forcibly extracted huge quantities of rice, a staple food in the region, from the local rural markets and either directed it to the urban centers to feed factory workers producing military supplies for Britain or shipped it out of the country to shore up wartime rations for British troops and citizens. The unavailability (rather than an actual shortage) of food during these harrowing years turned curiosity about soybeans into a matter of urgency. In 1941, a special Soya Bean Sub-Committee was set up under the Indian Research Fund Association to explore the legume's nutritional value. Just two years later, Sasanka Dey, one of India's earliest soybean-based foods pioneers, teamed up with researchers at Calcutta University to investigate ways to make soymilk to feed starving infants.

Even as the chaos of the war subsided, the late 1940s were a turbulent time in India as the country transitioned to independence while struggling with the catastrophe of Partition that divided India into two, carving out the new state of Pakistan. Food shortages remained at the forefront as the country sought to develop a stable economy. While staple crops such as rice and wheat were centerstage in efforts to achieve food security, as a low-cost source of protein, soybeans remained a critical part of this plan. By the early 1940s, the United States had outstripped Manchuria as the center of soybean cultivation and surged ahead of Europe in soybean research. And so, a newly independent India sought technical assistance and funding from American universities and private institutions to spur its own advancements in soybean cultivation and utilization. By the 1960s, agricultural colleges, set up with the help of U.S. funding, developed high-yielding varieties better adapted to India's unique climate alongside improved processing methods. Over time, American companies with interest in soybeans would tap into India as an export market, but mainly for crushing the soybeans for

soybean meal used in animal feed and soybean oil.

These mutually beneficial exchanges notwithstanding, there remained the problem of getting people in India to actually eat soybeans. Barring the north-eastern parts where fermented soybeans had a long and rich history, the early adopters of soybeans, such as Bhave and Gandhi, cooked the beans whole, a method that was rarely used in the East Asian countries more familiar with soybeans because it involved increased cooking time and ran the risk of un-dercooked soybeans, which in turn lead to digestive disturbances. Some farm-ers' and dairy cooperatives started pro-ducing soy-fortified baby foods in the 1960s and researchers further experi-mented with mass producing soy milk, soy yogurt or curd, tofu (soy *paneer*) and a soy cheese spread, but to no avail.

What finally became the soybean-based food of choice for most of India was ac-tually a residue of soybean processing: textured soy protein. The byproduct of extracting soybean oil from grinding

soybeans to make soy flour, this item too had an American connection via the Indian-born American missionary Robert Nave. As part of his missionary work, Nave set up a Methodist church-sponsored educational institute in the 1960s. Soon Nave connected with Dick Matsuura, director of the soybean program at Pantnagar University, one of the agricultural colleges at the forefront of soybean research in India at the time, who convinced him to produce soybean-based foods as part of his charity work. In 1970, with a donated Wenger X-25 extrusion cooker at hand, Nave founded a nonprofit called NTI Soya Products aimed at making the same textured soy protein the Indian troops so despised. Two years later, this was the first commercial product made by Nave and Pantnagar University's new joint-venture, the Soya Production and Research Association (SPRA).

The SPRA initially marketed it as a low-cost protein-rich food for the poor in India but the blandness of textured soy protein that put off Indian soldiers during the Second World War ensured once again that it found no takers. The SPRA then adopted a different strategy, marketing it to the rich and turning it into an aspirational food. By giving it a catchy name—Nutri Nuggets—and fancy packaging, stocking it in the finest stores, and conducting demonstrations at colleges and among higher-income women's groups, the product eventually caught on. Soon, soy nuggets even made their way into the lavish banquets at Sikh weddings, catering to the demands of both vegetarian and non-vegetarian guests. This acceptance as wedding fare, and thus as an aspirational food, meant that the success of soy nuggets was more or less assured and the company sold ten tons of Nutri Nuggets in the very first year.

This enthusiastic adoption likely had a lot to do with the ease of cooking. The nuggets only needed to be soaked in hot water for ten to fifteen minutes, and once softened, gently squeezed to remove excess water. After this, they could be marinated with spices and sautéed, added to curries, pulaos and salads, or turned into cutlets and kebabs. A host of cookbooks appeared in the 1970s with recipes nudging Indians into incorporating soy chunks in regular home cooking. Over time Nutri Nuggets, became synonymous with textured soy proteins in India.

By the 1980s, at least five companies were making soy nuggets and over the next two decades, a combination of innovative advertising, live demonstrations and consumer feedback turned them into a household product. To achieve this expansion, marketers had to delicately position the product as both a pure-play vegetarian food and as a meat substitute. In 1983, a full-page ad for food processor Gladstone Lyall's Nutresoy in *The Times of India* newspaper showed a young couple gesturing towards each

other as the text explained that "She doesn't touch meat" and "He can't stand vegetarian." The tagline positioned Nutresoy as the amicable solution to the couple's opposing food preferences. Another ad promoted Nutresoy in two flavors, "bland and mutton," but emphasized that both varieties were "100% vegetarian."

Another ace up the soy nugget producers' sleeve was the fact that their products were cheap. With all their textural resemblance to meat, soy nuggets were only one-fourth of the cost. "How to serve a meaty dinner every day and stay well within your budget," asked a Mysore Snack Foods ad from 1979 before offering its Mealmaker soy nuggets as the solution. Often the same promotional material highlighted its high-protein nutritive value alongside this greater affordability over meat, milk and eggs as well as the nugget's fat-free, cholesterol-free credential— the last two claims aimed solely at India's emerging aspirational middle class.

Over time, increasing assimilation across India's many regional cuisines meant that soy nuggets simply became ubiquitous. They no longer needed to be marketed towards specific ends but began to be treated as a food in their own right.

Today you can head over to one of Kolkata's many pice hotels (named after '*paise*', the lowest denomination of the Indian currency) that offer sumptuous meals at a very low cost, and find soy nuggets alongside the regular fare of vegetables and fish on your plate. Or you may come across the iconic Amritsari Nutri Kulche, a Punjabi-style soy chunks side dish served with a flatbread known as *kulche* in Amritsar's many street food stalls. It is the main ingredient in at least eighty-two recipes put together by cookbook author and chef Tarla Dalal. It is an emergency food brought over by disaster relief agencies in moments of great crisis, as during the 2016 floods in the northeast of India.

At the core of these varied dietary adoptions and adaptations is an experiment that came through at an opportune time, as a newly-independent nation looked for ways to ensure a food-secure future. Soybeans were far from the category of staples and its byproduct soy nuggets seemed never to be the "food of the future" as one advertisement optimistically put it. Yet, a combination of enthusiastic early adopters, well-intentioned research, dogged promotion, and low prices turned what was once a food many Indians rejected into a ubiquitous presence in Indian kitchens. ■

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