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TIME TO STEP UP TAPIOCA PRODUCTION

A new demand has emerged for tapioca-based raw materials as various industries affected due to rising costs of maize have started using tapioca starch as an alternative to maize starch.



Cassava plants

Tapioca is a starch that comes from the roots of a shrub-like plant called cassava. By itself, tapioca is nearly flavourless. It is most commonly used as a food thickener, and is perhaps best known as an ingredient in tapioca pudding.

The origins of cassava are many, but the principle origin is in the tropical areas of the American continents, especially in South America. Countries such as Guatemala, Mexico, Peru, and Honduras planted cas-

sava three to five thousand years before the plant was distributed across the US and elsewhere. In the 15th century, slave traders and the Portuguese brought cassava to the African continent. Cassava reached Asia around the 17th century, when the Spanish brought it from Mexico for planting in Philippines. In the 18th century, the Dutch brought cassava into Indonesia.

Cassava was introduced from Java to Mauritius in 1740 and from Mauritius to Sri Lanka in 1796. By the beginning of the 19th century,

cassava had been effectively distributed throughout tropical Asia. Expansion of cassava production in the 19th century was hastened by colonial administrations—first, by the initiation of a cassava processing and export industry in Malaysia in the 1850s followed by one in Java, and second, by the promotion of cassava as a famine reserve, particularly by the Dutch in Java and the British in southern India.

Cultivation of cassava is largely confined to the tropics in the developing countries of Asia, Sub-Saharan Africa and Latin America.

The word tapioca comes from the Brazilian Tupi word 'tipi'oca.' Ty means 'juice,' pya means 'heart,' and oca means 'remove.' Removing the heart and juice of the root is how tapioca is extracted. The root is harvested and the pulp inside is boiled down to release a cyanide-based toxin. From here, it can take many different forms.

Cassava has many names across many continents. In the area around Brazil, it is called *madioca*. In Africa where French is spoken, it is called *manioc*. In Spanish-speaking countries, it goes by the name of *yuca*.

Originally, Thais called it '*man mai*' or '*man samrong*.' Presently, it is called '*man samphalang*,' which is similar to the Javanese word for cassava, '*sampeu*.' This cash crop

generates a tremendous amount of revenue for Thailand. Thailand is currently the largest producer and exporter of tapioca flour in the world. Cassava was first commercially planted in the south of Thailand between rows of natural rubber trees. Much of it is planted in the province of Songkhla. Many factories were established there to produce tapioca starch and tapioca pearl for export to Singapore and Malaysia. However, the amount of planted cassava gradually decreased due to the encroachment of the rubber trees as they fully grew.

Planting area was then shifted to the east, such as Chonburi and Rayong. As market demand increased, planting area extended to other provinces, especially in the north-east.

There are two types of cassava. The first is sweet cassava, which is used for human consumption. This type has tough or tender flesh and is not bitter. It also has low hydrocyanic acid content. This type is planted all over the world at large scale.

The second type is bitter cassava with high hydrocyanic acid content. This is not suitable for human or animal consumption. It is suitable for processing into products such as tapioca pellets, tapioca starch and alcohol.

India production

The area under tapioca cultivation in India for the period from 2000-01 to 2009-10 is given in Table II. The area under tapioca was 19.2 million hectare during 2000-01. This increased in the next year itself to 19.5 million hectare. The production of tapioca was 6,768,000 metric tonnes in 2000-01. The maximum production in India was 8,060,000 MT in 2009-10.

A new demand has emerged for tapioca-based raw materials as various industries affected due to rising

State	Production ('000 tonnes)	Share (per cent)
Tamil Nadu	6992.19	70.24
Kerala	2516.76	25.28
Andhra Pradesh	357.54	3.59
Meghalaya	26.42	0.27
Pondicherry	25.00	0.25
Assam	18.38	0.18
Karnataka	13.10	0.13
Nagaland	6.00	0.06
Total	9955.39	-

costs of maize have started using tapioca starch as an alternative to maize starch. The starch produced from maize has been used as a major raw material in industries like textiles, pharmaceuticals, hygienic food products, ice creams and adhesive industries including gum manufacturing units. But the demand for maize increased alarmingly last year following the shortage of production and increase in its usage as a poultry feed.

Many industries shifted to maize starch when tapioca starch price was comparatively high. But now the trend has reversed. Industries are skipping maize and switching over to tapioca starch. Textile units, in particular, have started using tapioca starch as a raw material, pushing its prices. Several traders even stock tapioca starch in advance.

Although Kerala tops in tapioca production in the country, Tamil Nadu with 82,000 hectares under tapioca cultivation stands first in terms of processing tapioca into starch and tapioca pearls. Salem district of Tamil Nadu plays a major role in serving the domestic tapioca starch market.

Tamil Nadu accounts for more than 30 per cent of the cassava area in India. The remarkable increase in

production in Tamil Nadu has been due to very high productivity of cassava in the state (about 46.32 tonnes per hectare in 1996-97). This was the result of adopting high-yielding varieties like H-165 and H-226 as well as better management of the crop through the use of irrigation. The shift in focus of the crop from Kerala to Tamil Nadu was also evident from the percentage contribution of the two states towards national cassava production.

In the 1940s, cassava became an important raw material for the starch and sago industries established in Salem and Dharmapuri districts of Tamil Nadu. The cassava-based starch industry has recorded a high growth rate over the years. The produce was marketed through well-organised cooperative society.

The use pattern in Tamil Nadu, particularly in the Salem district has been quite different. Here cassava was used principally in the processing factories and the demand for direct consumption was negligible. The existence of about 230 sago factories and 270 starch factories in this district was mainly responsible for the increase in the production of cassava. It is interesting to note that the sago industry has taken roots in Salem district of Tamil Nadu. The first factor is the pioneering spirit of the entrepreneurs here, who manufactured sago out of tapioca during the 1940s.

Globalisation has impacted the production and use of tapioca. In order to revive this industry and improve the income and employment of the rural masses through the cultivation of tapioca, a study titled *Tapioca and Sago (sabudana) Serve Marketing in India-An Overview-An Analysis* was undertaken to:

1. Throw light on the area, production and yield of cassava and its uses in the world

2. Find out the area, production and yield of cassava in India

3. Examine the state-wise area, production and yield of cassava in India

4. Study the area, production and yield of cassava in Tamil Nadu

Another study titled *An Analysis of the International Market potential for Dried Cassava and Cassava Starch* discussed the international market for cassava starch and cassava feeds. The study concluded that international demand for cassava would depend on reductions in the cost of production, changes in trade policies affecting cassava and other feed ingredients, and improved regularity for supply.

World production

Global cassava production has been increasing continuously since 2008. Nigeria produces the greatest amount of cassava—32.7 million tonnes in 2008 and 33.9 million tonnes in 2009 and 2010. Brazil is the second-largest producer. Total Brazilian cassava production in 2008, 2009 and 2010 was 20.8, 23.3 and 24 million tonnes, respectively. Indonesia produced 16.4, 16 and 16.1 million tonnes of cassava in 2008, 2009 and 2010, respectively.

If we classify cassava output by continent, FAO estimates Africa to have produced 92.7 million tonnes in 2009, marginally above the record achieved in 2008. However, following the prevalence of adverse growing conditions, several countries recorded a contraction in production. In particular, floods or droughts depressed cassava output in Ghana, Madagascar, Mozambique and Togo.

Outbreaks of cassava mosaic virus also curbed production in the Democratic Republic of Congo—the second-largest producer in the region. The same disease compounded the negative effects of drought in Tanzania, where output was reported to have fallen by 20 per cent. In the Central African Republic, a 10 per

Table II
India's Tapioca Production During 2000-01 to 2009-10

Year	Area (million hectare)	Production (million MT)
2000-01	19.2	6.768
2001-02	19.5	6.516
2002-03	20.0	6.318
2003-04	22.0	6.058
2004-05	25.0	6.590
2005-06	25.3	7.520
2006-07	25.5	8.232
2007-08	27.0	9.056
2008-09	28.0	9.623
2009-10	23.2	8.060

Source: Tapioca Starch Association in India 2000-2010

cent decrease was mainly attributed to flood problems. The sector also suffered indirectly from the contraction in cotton cultivation, which is normally associated with cassava in rotation, allowing the root to benefit from residual fertiliser applications.

By contrast, Nigeria reported a 3.5 per cent increase, consistent with the government's new emphasis on raising food self-sufficiency, while production soared in Uganda, stimulated by an expansion in domestic demand. Angola and Cameroon also recorded large gains, while improved security conditions boosted plantings and output in Burundi.

Prices of internationally traded cassava products rose to record levels in 2010. A sharp cut in Thai exportable supplies, owing to a collapse in production, was the main reason behind the firmer prices, but a weak dollar also provided support. Cassava product prices were expected to remain firm in 2011, although much depended on the demand for cassava products for feed and industrial use, especially ethanol. These prospects were, in turn, influenced by developments in the competing global maize sector.

Importance of cassava in economic development

Cassava is a relatively neglected tropical root crop. Important in the economy of poor households, it is one of the major sources of subsistence and cash income to farmers in climatically disadvantaged regions. Cassava provides livelihood to up to 500 million farmers and countless processors and traders around the world. It is the basic staple food for millions of people in the tropical and sub-tropical belt. The International Food Policy Research Institute (IFPRI) in 1999 projected that there will be an increase in the global demand for cassava up to 68 per cent by 2020.

In 1990, Thailand accounted for almost 76 per cent of the total exports. During the 90s India's export was 31,854.5 metric tonnes of cassava and cassava-based products and its export earning was Rs 141.30 million.

Tapioca chips and pellets are also in demand for animal feed in many countries. Thailand and Indonesia are the major countries exporting pellets to European countries on monthly contract basis.

Asia stands second among the cassava producing continents in the world. Approximately 13 per cent of Asian cassava production comes from India.

Role of cassava in the developing economies

The role of cassava in the developing economies differs from region to region and from country to country even within the same region. In Thailand, for example, the stimulus for extending the cultivation of cassava was the external demand for its use as an ingredient in livestock feed. Nevertheless, it is grown in areas that are politically sensitive and where the farmers are poor.

**Table III
Country-wise Cassava Production**
(metric tonnes)

Country	2008	2009	2010	Country	2008	2009	2010
American Samoa	20	20	20	Laos	71,000	71,000	71,000
Angola	3,129,734	3,300,000	3,300,000	Liberia	361,300	440,500	440,500
Antigua and Barbuda	40	40	40	Madagascar	2,435,000	2,228,000	2,228,000
Argentina	175,000	170,000	170,000	Malawi	895,000	900,000	900,000
Bahamas	400	130	133	Malaysia	380,000	380,000	370,000
Barbados	820	820	820	Maldives	39	29	90
Benin	2,062,616	2,800,000	2,800,000	Mali	11,923	14,787	33,601
Bolivia	328,198	342,261	516,730	Martinique	300	300	300
Brazil	20,864,340	23,335,974	24,087,730	Mauritius	111	164	170
Brunei Darussalam	1600	1600	1600	Mexico	19,730	18,352	19,500
Burkina Faso	2000	2000	2000	Micronesia, Fed States of	11,800	11,800	11,800
Burundi	617,483	656,656	712,713	Mozambique	5,352,760	5,361,974	5,361,974
Cambodia	228,512	147,763	131,052	Myanmar	88,144	77,248	96,818
Cameroon	1,984,132	1,500,000	1,700,000	New Caledonia	2800	2800	2800
Cape Verde	3000	3300	3300	Nicaragua	51,500	52,000	51,000
Cayman Islands	18	18	18	Niger	100,767	164,515	105,494
Central African Republic	559,000	560,400	561,700	Nigeria	32,697,000	33,854,000	33,854,000
Chad	280,000	342,000	342,000	Niue	36	36	36
China	3,750,720	3,800,933	3,850,900	Panama	28,000	31,542	17,122
Colombia	1,761,550	1,791,867	1,982,351	Papua New Guinea	120,000	120,000	120,000
Comoros	51,900	45,000	45,000	Paraguay	3,694,400	2,719,410	3,853,720
Congo, Dem Republic of	16,500,000	15,959,000	15,435,700	Peru	868,114	881,985	885,600
Congo, Republic of	811,890	828,128	844,690	Philippines	1,890,315	1,770,800	1,652,040
Cook Islands	3000	3000	3000	Puerto Rico	540	540	540
Costa Rica	152,000	159,000	159,000	Rwanda	316,934	799,829	688,013
Cuba	280,930	333,892	300,000	Réunion	1800	1800	1800
Dominica	950	950	950	Saint Lucia	1000	1000	1000
Dominican Republic	126,530	126,508	123,877	Saint Vincent/Grenadines	250	250	250
Ecuador	319,317	291,605	360,768	Samoa	300	300	300
El Salvador	20,866	17,296	18,000	Sao Tome and Principe	4840	5324	5324
Equatorial Guinea	45,000	45,000	45,000	Senegal	104,009	132,859	132,859
Fiji Islands	26,900	31,943	32,582	Seychelles	150	150	150
French Guiana	10,375	10,375	10,375	Sierra Leone	239,597	240,891	240,891
French Polynesia	5500	5500	5500	Solomon Islands	2100	2300	2300
Gabon	224,000	228,000	230,000	Somalia	65,000	70,000	70,000
Gambia	6000	7500	7500	Sri Lanka	251,510	249,110	249,110
Ghana	7,845,440	8,107,000	8,512,000	Sudan	09,600	10,000	10,200
Grenada	170	180	180	Suriname	3700	3040	3200
Guadeloupe	1280	1280	1280	Tanzania, United Rep. of	7,181,500	5,757,968	5,650,000
Guatemala	19,890	19,867	16,000	Thailand	16,506,625	19,064,000	18,283,000
Guinea	900,000	1,000,000	1,000,000	Togo	693,998	700,697	700,000
Guinea-Bissau	32,000	32,000	34,000	Tonga	16,000	9070	9070
Guyana	28,100	44,900	28,000	Trinidad and Tobago	1400	1400	1400
Haiti	325,000	337,740	332,000	Uganda	4,875,000	4,966,000	5,265,000
Honduras	10,030	9979	9929	Venezuela, Boliv Rep. of	448,432	570,564	571,000
India	6,700,000	7,000,000	7,000,000	Vietnam	1,800,500	1,986,300	2,050,300
Indonesia	16,438,100	16,089,100	16,158,000	Wallis and Futuna Is.	2400	2400	2400
Ivory Coast	1,600,000	1,673,000	1,900,000	Zambia	970,823	815,248	950,000
Jamaica	17,364	15,371	15,000	Zimbabwe	170,000	175,000	175,000
Kenya	930,000	950,000	950,000	World	171,917,962	176,784,378	178,868,310

The Royal Thai Government is interested in maintaining the incomes of the poor. However, the proposals for diversifying the crops in these areas have met with little success. Any technological breakthrough in cassava that would improve yield could make cassava competitive with corn.

In Indonesia, the crop played a role in food security in the past by preventing famine and keeping food prices from rising unduly. However, after the rapid growth of rice output, it is being used mainly as a convenience food. Indonesia also exports cassava pellets to the European community but its exports are below quota, mainly because of infrastructure constraints.

In the Philippines, cassava is a safety food that is consumed when rice is scarce and helps to raise the income of the poor. Infrastructure constraints, however, affect the marketing of cassava and yields must be improved if it is to be used domestically as livestock feed and starch. In China, cassava is mostly grown for domestic use although the country does export some cassava to earn foreign exchange.

In the humid and sub-humid areas of west and central Africa, cassava is the major staple or at least one of the principal staples. It is an important famine relief crop and contributes to food security in the drier areas of west, east and southern Africa.

Cassava's roots and leaves are of major nutritional importance in Liberia, Sierra, Leone and Zaire, whereas in Ghana and Nigeria, cassava is grown mainly for its roots. In Zaire, cassava is consumed differently in different zones.

The nature of production in Sub-Saharan Africa is unclear. Some consider it to be mainly subsistence production with plantings in backyard gardens and consumption in fresh form. On the other hand, some

Table IV
World Cassava Market at a Glance
(million tonnes)

Cassava market	2008	2009	2010	Change 2010 over 2009 (per cent)
Production	239.9	257.0	248.7	-0.9
Trade	18.9	28.2	29.2	3.8
Supply and demand indicators (per capita food consumption)				
World (kg/year)	16.9	17.7	17.6	-0.9
Developing (kg/year)	21.3	22.2	22.0	-0.9
LDC (kg/year)	62.6	65.8	68.9	-4.7
Sub-Saharan Africa (kg/year)	106.4	111.2	114.8	3.2
FAO cassava price (USD tonnes)				
Chips to China (f.o.b. Bangkok)	171.1	137.4	199.1	52.4
Starch	383.6	281.3	496.0	87.1
Thai domestic root price	57.2	41.4	76.1	98.8

consider that processed cassava is traded extensively in Ghana and Nigeria, where it is emerging as a staple food for low-income groups in urban areas.

In Latin America, cassava is used principally as food. The diversification of cassava use, as in Asia, has not taken place in Latin America despite structural changes of the post-war period and marked changes in food consumption patterns. Latin America does, however, use cassava for livestock feed more often than Asia and Africa.

Tapioca processing

Abundance of raw material, favourable conditions, a group of entrepreneurs traditionally trained in the tapioca industry, and availability of skilled labourers are the main factors behind the growth of tapioca processing industry. Majority of the entrepreneurs engaged in tapioca processing are farmers who have turned to manufacturing of tapioca finished products in due course of time. Today, its cultivation and processing have emerged as the main source of live-

lihood for a large number of rural population.

India made a trade agreement with Asian countries like Indonesia, Thailand and Bangladesh, to import sago, tapioca starch and modified starch with an import tariff of only 20 per cent, which was 30 per cent (modified starch) with special additional duty (SAD) of 4 per cent. Thus, the imported products were cheaper than the domestic produce.

With reduction in tariffs, there had been indiscriminate imports from Thailand, Indonesia, Vietnam, China and Netherlands, resulting in the average price of domestic starch crashing from Rs 1081 per bag to Rs 827 per bag. Moreover, in the 2004-05 union budget, the tariff rates of customs duty on tapioca starch, sago and modified starch were raised to 50 per cent and the effective rates of customs duty to 30 per cent each for tapioca starch and sago, and 20 per cent for modified starch. Also, the imports of starch rose four-fold from 2445 tonnes to 9800 tonnes, that of sago nearly eight-fold from 306 tonnes to 2320 tonnes and that of modified starch from 3568 tonnes



Cassava roots

to 4597 tonnes between 2000-01 and 2003-04.

Tapioca forms

Tapioca can be found in pearl, flake, powder or stick form. The pearls are found in tapioca pudding, while the flakes and powders dissolve completely when used as thickening agents, so they are not noticeable in the way that the pearl form is. In most forms they are colourless, but some are found dyed in different colours to denote the type of cassava plant or the producer it comes from. Pearl tapioca is similar to pearl sago, which is used in essentially the same ways. Consequently, tapioca may be called sago, and vice versa.

Common uses

Tapioca is commonly used to thicken puddings, jellies and soups. It is also used as a binder in pharmaceutical tablets and as a thickener in natural paints. When processed as sticks or strips, tapioca can be fried or garnished and eaten, or put through a fermenting process to create a slightly alcoholic beverage. Tapioca takes the form of dessert in

many South American and African countries.

Nutrition

Tapioca is gluten- and protein-free and has little nutritional value. Because it is a starch, it is mainly made up of carbohydrates. The nutritional value of tapioca is usually determined by what recipe it is used in. One serving of dry tapioca has 153 calories, 0.4 gram of fat, 10 grams of carbohydrates and 0.2 gram of protein. When it is fried and takes the form of tapioca chips, these figures increase to 490 calories, 24 grams of fat, 66 grams of carbohydrates and 2 grams of protein.

Tapioca can be made to have a high nutritional value depending on what it is added to. Alone, it has little value, but when combined with fruits to thicken jelly or to a low-calorie soup, the nutritional value increases dramatically. Tapioca is versatile and can be used in many ways.

Konzo or Matakassa is a paralytic disease that is caused by the toxins that should be removed during the process of extracting tapioca. One may contract this disease if a large

amount of tapioca containing the cyanide-based toxin is consumed for an extended period of time. Because tapioca is a starch, it can raise blood-sugar level dramatically in individuals with diabetes.

Nutritional value of tapioca

Tapioca is low in saturated fat, sodium and cholesterol. The nutritional value of tapioca makes it somewhat suitable for weight gain. One should avoid including tapioca in diet if interested in weight loss and maintaining optimum health.

Vitamins. Tapioca is short on vitamin content, however, according to NutritionData, a website that imparts nutritional information from the US Department of Agriculture (USDA), it does contain some B vitamins. Folate (vitamin B9) is the highest concentrated B vitamin. One cup of tapioca contains 6.1 micrograms or 2 per cent of the daily value (DV) (not one cup of tapioca ‘pudding,’ but 1 cup of pure tapioca, so the pudding, or another tapioca dish, will have less than that).

Folate is an important vitamin, especially vital for pregnant women as it is important in the formation of new cells and in preventing birth defects. Along with folate, one cup of tapioca contains a trace of pantothenic acid, choline and vitamin B6.

Minerals. Tapioca makes up for its lack of vitamin content by providing several minerals, the most prevalent of which is iron. One cup of tapioca contains 2.4 mg of iron, which is 13 per cent of the DV. Calcium is available at 30.4 mg, which is 3 per cent of the DV. Other important minerals in lesser amounts in tapioca are magnesium, phosphorus, potassium, zinc, copper, manganese and selenium.

Essential fatty acids. While the amount may be small, tapioca is a source of omega-3 and omega-6

fatty acids. According to the Linus Pauling Institute, fatty acids cannot be synthesised within the human body, which is why these must be consumed from dietary sources. One cup of tapioca contains 1.5 mg of omega-3 acids and 3 mg of omega-6 fatty acids. Tapioca does not contain any other fat. One cup contains 544 calories and 135 gm of carbohydrates.

Fats. Tapioca contains a small amount of fat, with 4.27 gm per 110gm container. About 3 gm exist in the form of healthy unsaturated fat, while just over 1 gm is saturated.

Protein. A container of tapioca contains 2.15 gm of protein or about 1 to 4 per cent of the typical adult's daily need for this nutrient. Protein plays a central role in tissue growth and repair, and one should obtain about 10 to 35 per cent of the calories from protein.

Nutritional value of tapioca flour

One can find the clear pearly tapioca in pudding and dark, chewy tapioca bubbles in bubble tea. Tapioca flour is also often used as a thickening agent in pies and breads. Overall, tapioca flour is not the healthiest choice when considering its nutritional value because it is not a significant source of vitamins, minerals, protein or fibre. It is high in carbohydrates and therefore high in caloric content. Add that to the fact

that most tapioca comes with vanilla or sugar added in for flavour. However, people don't usually consume tapioca flour in large quantities or consider it as a major staple food, so the nutritional deficiencies should not pose a large problem.

Starch. Tapioca flour, like wheat flour, is very high in starch. Starch is a type of carbohydrate and while carbohydrates are an essential component of the diet, it is very high in calories. Each gram of tapioca flour contains about 0.9 gm of carbohydrates (1 gm of carbohydrate contains about 4 calories). However, tapioca flour contains more starch per gram than regular white wheat flour and offers less of the other nutrients that wheat provides.

Protein. Protein deficiency frequently occurs in the regions where tapioca is the primary staple food. Tapioca flour has less than 1 per cent protein compared to white wheat flour, which has 10 per cent protein.

Fibre and fat. Tapioca flour contains almost no fibre or fat. Per 100 gm of tapioca flour, there is a little less than 1 gm of fibre and almost no fat.

Minerals. Tapioca fares a little better in nutrition when it comes to minerals. 100 gm of tapioca flour contains 20 mg of calcium, 1.5 mg of iron, 1 mg of magnesium, 7 mg of phosphorus and 11 mg of potassium. For comparison, white wheat flour contains 14 mg of calcium, 1 mg of iron, 22 mg of magnesium, 108 mg

of phosphorus, 107 mg of potassium and 34 mcg of selenium.

Marketing of Sagoserve

Sagoserve is an agency for marketing sago on behalf of its member producers. Prior to the formation of the Sagoserve, the manufacturers of starch and sago faced a lot of problems pertaining to credit and marketing of tapioca products. Merchants used to offer low prices for their goods and middlemen exploited this situation in the absence of organised marketing and warehousing facilities. To get over these problems the sago/starch manufacturers formed Salem Starch and Sago Manufacturers' Service Industrial Co-operative Society, Salem in 1981 under the Tamil Nadu Co-operative Society Act 1961. It commenced its business in 1982. This society functions under the administrative control of the director of industries and commerce, government of Tamil Nadu.

After the emergence of Sagoserve, on the horizon of tapioca industry, the bargaining power of manufacturers has substantially increased in the field of marketing and the menace of middlemen in this trade has been overcome. Due to successive efforts of the society, sago/starch units have now become the backbone of Salem district's rural economy. ■

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Consumer Protection Act Amendments

The government introduced Consumer Protection (Amendment) Bill, 2011, to facilitate quicker disposal of cases and to widen and amplify the scope of some of the provisions of the Act. With a view to faster redressal of complaints and to rationalise procedure of appointments in consumer disputes redressal agencies, the amendments proposed provide for: online filing of consumer complaints, enforcement of orders as a decree of civil court, payment to be made for non-compliance of the order, powers to district forum, powers to state government in selection process, increase of age in the appointment, increasing the period of experience for appointment, powers to National Commission/State Commission to direct any one to assist the case and monitoring system of pending cases.