Inside This Issue

- All about Mr. M.K. Janardan
- It is requiem
Silence is golden. It is time to be absolutely silent. What else can one do when such a stunning news is received?

Dear Mr. Jandardan we will miss you for long years. You passing away is unbelievable. Yes truly unbelievable.

God bless us.
REMEMBERING OUR LEADER

Homage to a Towering OTAIP personality, Vice President, OTAIP, Past President W.Z., Active Gorakshak leader, dedicated to OTAIP well being, founder President of JAPRO ENGINEERING, won many awards, specially SCODET award lifetime achievement.

“Late Mr. M. K. Janardan”
"HELPFUL DATA"

COOIT’s Trade Estimate for Rabi Oilseed Production and Availability of Vegetable Oils during 2014-15 Season

36th All India Rabi Seminar of Oilseeds, Oil Trade & Industry was held on 15th March, 2015 at Jaipur and arrived at trade estimate of Rabi Oilseeds crop and availability of vegetable oils from Rabi and Kharif Crops during 2014-15 season as under:

Rabi Oilseeds Area & Crop

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundnut</td>
<td>8.43</td>
<td>12.75</td>
<td>8.71</td>
<td>17.67</td>
<td>(-) 0.28</td>
<td>(-) 4.92</td>
</tr>
<tr>
<td>Rape/Mustard</td>
<td>65.17</td>
<td>57.40</td>
<td>71.32</td>
<td>65.00</td>
<td>(-) 6.15</td>
<td>(-) 7.60</td>
</tr>
<tr>
<td>Sunflowerseed</td>
<td>3.19</td>
<td>2.53</td>
<td>4.40</td>
<td>3.95</td>
<td>(-) 1.21</td>
<td>(-) 1.42</td>
</tr>
<tr>
<td>Sesameseed</td>
<td>2.26</td>
<td>2.44</td>
<td>1.22</td>
<td>3.02</td>
<td>(+) 1.14</td>
<td>(-) 0.58</td>
</tr>
<tr>
<td>mustardseed</td>
<td>0.95</td>
<td>0.50</td>
<td>1.78</td>
<td>1.01</td>
<td>(-) 0.38</td>
<td>(-) 0.51</td>
</tr>
<tr>
<td>Linseed</td>
<td>3.21</td>
<td>1.03</td>
<td>3.59</td>
<td>1.20</td>
<td>(+) 0.27</td>
<td>(-) 0.17</td>
</tr>
<tr>
<td>Other Oilseeds</td>
<td>0.80</td>
<td>0.53</td>
<td>0.53</td>
<td>(-)</td>
<td>(+) 0.27</td>
<td>(-)</td>
</tr>
<tr>
<td>Total</td>
<td>84.01</td>
<td>76.65</td>
<td>91.44</td>
<td>91.65</td>
<td>(+) 7.43</td>
<td>(+) 15.20</td>
</tr>
</tbody>
</table>

* Area as per GOI data as on 12th March, 2015

Oilseeds Production:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundnut (in shell)</td>
<td>35.70</td>
<td>12.75</td>
<td>48.45</td>
<td>64.82</td>
<td>(-) 16.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soybean</td>
<td>91.70</td>
<td>91.70</td>
<td>95.00</td>
<td>95.00</td>
<td>(-) 3.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rape/Mustard/Totia</td>
<td>0.80</td>
<td>57.40</td>
<td>58.20</td>
<td>66.50</td>
<td>(-) 8.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunflowerseed</td>
<td>1.30</td>
<td>2.53</td>
<td>3.83</td>
<td>5.80</td>
<td>(+) 1.97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sesameseed</td>
<td>4.70</td>
<td>2.44</td>
<td>7.14</td>
<td>6.52</td>
<td>(+) 0.52</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mustardseed</td>
<td>12.95</td>
<td>-</td>
<td>12.95</td>
<td>11.30</td>
<td>(+) 1.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nigerseed</td>
<td>0.70</td>
<td>-</td>
<td>0.70</td>
<td>0.70</td>
<td>No Change</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saltflowered</td>
<td>-</td>
<td>0.50</td>
<td>0.50</td>
<td>1.01</td>
<td>(+) 0.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linseed</td>
<td>-</td>
<td>1.03</td>
<td>1.03</td>
<td>1.20</td>
<td>(+) 0.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub Total</td>
<td>147.85</td>
<td>76.65</td>
<td>224.50</td>
<td>252.65</td>
<td>(-) 28.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cottonseed</td>
<td>124.00</td>
<td>124.00</td>
<td>125.50</td>
<td>125.50</td>
<td>(-) 1.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copra</td>
<td>6.50</td>
<td>-</td>
<td>6.50</td>
<td>7.00</td>
<td>(+) 0.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>278.35</td>
<td>76.65</td>
<td>355.00</td>
<td>385.35</td>
<td>(+) 30.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OTAI NEWS LETTER (WZ) Vol. XVII No.3 July - September 2015
General Observations:

1. The area under Rabi Oilseeds crop 2014-15 decreased to 84.01 lakh hectares from 91.44 lakh hectares last year i.e. down by 7.43 lakh hectares.

2. Rabi Groundnut crop has decreased to 12.75 lakh tones from 17.67 lakh tones of last year, down by 4.92 lakh tones.

3. Rapeseed-Mustard including Taramira crop decreased to 57.40 lakh tones from 65.00 lakh tones of last year, down by 7.60 lakh tones.

4. Rabi Sunflowerseed crop decreased to 2.53 lakh tones from 3.95 lakh tones of last year, down by 1.42 lakh tones.

5. Rabi Sesame seed crop decreased to 2.44 lakh tones from 3.02 lakh tones of last year, down by 0.58 lakh tones.

6. The overall Rabi Oilseeds Crop 2014-15 has decreased to 76.65 lakh tones from 91.85 lakh tones last year, down by 15.20 lakh tones, mainly due to shortage of water and shifting to other crops.

7. There is wide spread report of hailstorm and rain in Rajasthan in last 4 to 5 days, which have damage the mustard crop in some area and at the same time late sowing of mustard crop in certain area like Sri Ganganagar would be benefitted. We are assessing the impact and shall revise the crop in next few days.

8. The combined area of Kharif and Rabi oilseeds during 2014-15 as per GOI, is about 262.49 lakh hectares and production of 9 oilseed crops (Kharif & Rabi) for the current year (2014-15) is estimated at 224.50 lakh tones compared to 252.85 lakh tones of last year, down by 28.35 lakh tones (11.21%). The total production including Cottonseed and Copra estimated at 355.0 lakh tones compared to 385.35 lakh tones in 2013-14.

9. The total vegetable oil availability from Kharif and Rabi Oilseeds crops for the year 2014-15 (Nov-Oct) is estimated at 76.14 lakh tones compared to 83.77 lakh tones last year, down by 7.63 lakh tones (9.11%).

10. In view of lesser crop coupled and higher demand for edible oils, import of edible oil during 2014-15 (Nov-Oct) likely to increase by 9 to 10 lakh tones and estimated at 125.0 + lakh tones. Import of non-edible oil is likely to be 2.0 + lakh tones. Total import of vegetable oils (Edible + non-edible) is estimated at 127.0 + lakh tones during 2014-15 (Nov-Oct) against 118.2 lakh tones in 2013-14.

Courtesy: SEA NEWS CIRCULAR, VOL XVII, ISSUE 12, MARCH 2015.

“USEFUL INFO”

CASTOR CROP SURVEY - EXECUTIVE SUMMARY

CASTOR PROSPECTS - 2014-15
EXECUTIVE SUMMARY

The Solvent Extractors’ Association of India (SEA) is an all India apex body of solvent extraction industry and at present almost all-working solvent extraction units are its members. The association continuously gives feedback to the members about the developments taking place in the country and world.

As one of its activities, SEA conducts Castor crop estimation in Gujarat, Rajasthan and Andhra Pradesh every year. Thus SEA commissioned Nielsen India to conduct a crop estimation study for Castor Seeds in Gujarat, Rajasthan and Andhra Pradesh.

Nielsen India is the largest market research agency in the subcontinent with the requisite experience, expertise and infrastructure to conduct such studies.

Nielsen India is conducting such studies since 2004-05 on behalf of SEA. This year, Nielsen India conducted the study on behalf of SEA in Gujarat, Rajasthan and Andhra Pradesh during the period October 2014 - May 2015.

Till date the study was carried out in major dis-
tracts of Gujarat, Rajasthan and Andhra Pradesh in three field survey rounds during October 2014 - February 2015 to assess the crop. Since the Castor crop cycle is long, therefore to re-assess the crop estimates two more rounds will be conducted in March & May (in Gujarat & Rajasthan) and crop estimates may be revised if necessary.

Courtesy: SEA NEWS CIRCULAR, VOL XVII, ISSUE 12, MARCH 2015.

Minor Forest Produce Plan Floundering

THE minimum support price for minor forest produce (MFP), an initiative conceived as a welfare plan to cover about 100 million tribals, is floundering in the first year of its implementation. At the end of the 2014-15, half of Rs 100 crore earmarked by the Tribal Affairs Ministry, the nodal agency for this scheme, lays unutilised.

The scheme was rolled out at the end of 2013-14, was initially planned to be implemented in Andhra, Chhattisgarh, Gujarat, MP, Maharashtra, Odisha, Rajasthan, Jharkhand and Telangana.

The scheme envisages fixation of MSP for 12 minor forest produce—tendu, bamboo, mahuwa seed, sal leaf, sal seed, lac, chironee (seed), wild honey, myrobolan (harad), tamarind, gums and karanj. The states have been given funds to modernise village haats and storage facilities. But the procurement record is dismal.

Secretary Tribal Affairs H Panda said, "In the last one year prices have not gone below MSP. It is an encouraging sign. Last year it was a bumper crop for tamarind but even then the prices did not crash. We have asked the states to acquire only about 20-25% of the forest produce. This way they do not incur losses. But their presence has an effect on the entire market." In case the market price falls under the MSP in case of a bumper crop, the state agencies move in and acquire the entire produce. The loss incurred is shared by the Centre and state in 75:25 ratio. (Source: The Economic Times dated 23rd Feb 2014).

Decrease in Agri Labour

According to a recent study by industry association FICCI and KPMG on the status of labour in Indian agriculture between 2004-05 and 2011-12, the size of agriculture workforce declined by 30.57 million people, the first period when there was a reduction in absolute numbers. "The share of agriculture workforce in India's total workforce declined from 56.7 per cent to 48.6 per cent during the same period," the report said.

The report said shift towards MGNREGS and general decline in agriculture wages in comparison to wages in secondary and tertiary sectors are some of the major reasons for this fall in farm labour in absolute terms.

Though rural wages have outgrown urban wages since 2006-07 to 2012-13, but it has been mainly due to wage growth under MGNREGS. On a segregated basis, close to 79 per cent of this drop in farm labour has been in just five states of Uttar Pradesh, Karnataka, West Bengal and Rajasthan, while all the other states constitute the rest.

Crop-wise, labour scarcity has been maximum in paddy, followed by wheat, cotton, sugarcane and groundnut. The basic reason for the decline is falling remunerations. Wages of non-farm professions are at least 15-20 per cent higher while industrial wages is at least 1.5 times more than the agriculture.

The shortage of farm labour has also escalated its costs and data showed that input
costs like labour and fertilisers have increased at a higher pace than any other item leading to spike in overall cost of cultivation.

_Courtesy : SEA NEWS CIRCULAR, VOL XVII, ISSUE 12, MARCH 2015._

Unseasonal Rains Damage Rabi Crops Worth Crores

STORMY weather in the past few days has damaged crops worth thousands of crores according to elected representatives of affected regions. The bout of rain had hit huge tracts of land under wheat, mustard, yellow peas, potato and other horticulture crops.

Crop was damaged across 35 lakh hectare area in Punjab and 25 lakh hectare in Haryana followed by 50,000 hectare in Maharashtra, Avinash Rai Khanna, BJP MP from Punjab and in charge of Jammu & Kashmir said in Rajya Sabha on Tuesday. “We expect a crop loss of over Rs 1,000 crore due to the rains over the past few days,” he said. Samajwadi Party’s national general secretary Ramgopal Yadav said that more than half of the potato crop in UP may be damaged. Wheat and mustard are similarly affected by rain and wind, he said. “Once it becomes sunny the mustard seeds which were soon to be harvested will just fall on the ground. In Bundeikhand huge damage has been reported of yellow peas and arhar crop,” he said. Congress leader Pramod Tiwari claimed that losses in Uttar Pradesh alone were to the tune of Rs 10,000 crore. In Punjab, planting of maize, sunflower and mentha has also been affected by the excessive rains.

Nalin Rawal, chief agri research analyst, Skymet weather Services, said that rains had damaged over 50-65% of the area (total area under wheat is 30.65 million hectare) under wheat crop. “There can be a 20-25% loss on wheat crop,” he said.

_Courtesy : SEA NEWS CIRCULAR, VOL XVII, ISSUE 12, MARCH 2015._

“GOOD VIEW”

India should Reform Agriculture to meet Short Term Growth Objectives - IMF

INDIA needs to pursue reforms in agriculture vigorously and reduce the inefficiencies in the public system of food procurement, distribution and storage to ensure medium-term growth and help in job creation, the International Monetary Fund (IMF) said on Wednesday. “As well as lessen impediments to interstate movement of agricultural produce, should be instituted,” it said. India’s growth in agriculture and allied sectors is expected to be 1.1 per cent in 2014-15, down from 3.7 per cent in 2013-14, due to the impact of low southwest monsoon on both kharif and rabi harvests. The IMF also pointed out that supply-side bottlenecks and structural challenges — particularly in the agriculture, mining and power sectors — constrain medium-term growth and hinder job creation. According to the Fund, inadequate irrigation infrastructure is among the factors hampering agricultural production in India. Out of India’s total cropped area of 192 million hectares, less than half is under irrigation. The IMF agreed that further easing of restrictive labour laws, raising the productivity of the agriculture sector, and addressing skill mismatches would make growth more inclusive and help in job creation. (Source: Business Standard dt 12 Mar. 15).

_Courtesy : SEA NEWS CIRCULAR, VOL XVII, ISSUE 12, MARCH 2015._

“OMINOUS”

Tough time a head

LAST year we had a poor kharif oilseed crop due to lesser rain at 88% of the normal which affected kharif crop’s yield, area and production. Also, the acreage under rabi oilseed crop was down by about 7.7 lakh hectare and to compound the difficulty; untimely rains played a havoc on the Rabi crops during middle of March in Northern India and Rajasthan damaging the standing crops including that of mustard. Further, the kharif soybean crop is now estimated at 90 to 95 lakh tonnes only.
Due to continuous disparity, soybean crushing is very much reduced thereby affecting overall domestic availability of both oils and meals. The export of oil meals is at a historical low and reduced by 44% compared to the previous year. The soybean meal export is hardly one fourth of the previous year and also the domestic demand for oil meals has reduced adding to the woes of the industry. Capacity utilization is at the lowest and many plants are close down due to disparity in crushing.

Indian Meteorological Department (IMD) has today forecasted that this year India’s monsoon rains could be below average in 2015 at 93% due to an impact of El Nino weather pattern, which can bring on a dry spell in the region. This is also a cause of serious concern to the country’s agriculture scenario and may impact the oilseed production in coming seasons.

Taking an overall view, this year looks to be very tough for the industry. On one hand the crushing is down due to disparity while import of edible oil is rising and would not be surprised to see record import of edible oils at around 130.0 lakh tonnes during the current oil year ending October 2015.

*Courtesy: SEA NEWS CIRCULAR, VOL XVII, ISSUE 1, APRIL2015.*

**Major Recommendations**

- Thrust on oil palm plantations in NE States, wherein, tribals are the land owners, with infrastructure support for processing and connecting roads.
- Constitution of a Committee comprising Representatives from IOPR, Oil Palm Processors, Representatives of Machinery Division of DAC, Ciae, Bhopal and Progressive Farmers for assessment of requirement of machinery and tools.
- Dovetailing of resources for development of infrastructure and setting up custom hiring centers for machineries under RKVY with PPP mode on the pattern of Custom Hiring Centres established by Andhra Pradesh for paddy plantation.
- Pest management practices should be based on the crops grown in the area of oil palm for effective management of emerging pests that are common for crops like sorghum and oil palm.
- Areas with higher rainfall/availability of natural water resources may be given priority for oil palm plantation to avoid exploitation of ground water resources. Districts with high productivity potential and low area may be given priority for area expansion.
- Strong R&D support for development of machinery and tools; studies to work out the critical stages for water requirement; development of leaf colour chart for effective INM and integrated farming (intercrop, dairy, poultry, fishery, piggeries etc.) with oil palm plantation.
- Recommendations about inter cropping should be supported with data on cost of investment and the returns from the recommended inter crops.
- Matter relating to inclusion of oil palm under MSP may be first examined by the concerned State Governments and proposal, if any, may be submitted to Government of India.
- Documentation of success stories and preparation of video films starting from nursery to processing of FFBs.
- Separate provision for recognition/awards for States / Farmers / Entrepreneurs for oil palm.

*Courtesy: SEA NEWS CIRCULAR, VOL XVII, ISSUE 1, APRIL2015.*
"NOT PEANUTS"

A Li'l Bit of India in My Snickers?

MARS Plans to Source Peanuts from India

What may perhaps be India’s contribution to what’s considered the best-selling chocolate bar in the world? Peanuts! The crunchy taste in Snickers will soon be Indian as Mars Incorporated, which makes the $2-billion chocolate bar brand, plans to source peanuts from Saurashtra for markets right from India and Middle East to South East Asia and China.

"From a quality perspective, it is very critical to get peanuts of a particular variety. We are developing it with a couple of vendors based out of Saurashtra," Mars International India general manager MV Natarajan said. "India can even be the largest sourcing hub for peanuts," he said.

Mars currently does a bulk of peanut sourcing for Snickers bars — which come stuffed with peanuts — from Argentina.

For companies, low level of aflatoxins, a type of toxin produced by molds that grow on peanuts and corn among others, is the deciding factor. While Mars follows a strict benchmark of 4 parts of aflatoxins per billion (ppb), the Indian benchmark of aflatoxin is around 30 ppb, while it is 10 ppb in the US.

Despite India being the world’s second-largest producer of peanuts with nearly six-million tonnes annually, its share in the global market is restricted to raw peanuts, with negligible contribution in value-added products like peanut butter.

Mars has teamed up with Gujarat-based Khedut Feeds to help farmers in Saurashtra produce high-quality peanuts with global expertise and best practices.

"Over the last few years, we have started an initiative — Project Saurashtra — by partnering nearly 40,000 farmers to educate them on growing high quality nuts and have better crop yield," said Tushar Patel, director at Khedut Feeds. Last month, Mars Inc — which also owns M&M’s, Twix, Milky Way and Bounty brands — announced it will invest $160 million to open its first chocolate plant in India.

A year ago, AgroTech Foods Limited, an affiliate of Conagra Foods Inc, announced the opening of its manufacturing unit near Bharuch in Gujarat to start local production of its Sundrop peanut butter for the first time in India. But not many companies are interested, say experts.

"Farmers in India hardly use latest infrastructure or technology that helps produce export quality peanuts," said Sanjay Bajaj, MD of Ahmedabad-based Bajaj Food Products, one of the first peanut butter manufacturer and exporter in the country. "Unless global companies partner them and bring best global practices, it is difficult to match other countries despite low prices in India," he said.

There are other issues, too. Peanuts production is highly vulnerable to rainfall deviations and display huge fluctuation between years. Also, the domestic consumption is huge for peanut oil, and just 5-7 per cent of peanuts get exported to other markets.

<table>
<thead>
<tr>
<th>Global Peanut</th>
<th>Production (in Million T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>16.5</td>
</tr>
<tr>
<td>Africa</td>
<td>9.0</td>
</tr>
<tr>
<td>India</td>
<td>6.0</td>
</tr>
<tr>
<td>USA</td>
<td>2.36</td>
</tr>
<tr>
<td>Argentina</td>
<td>1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global Peanut Exports (in 10,000 T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina China</td>
</tr>
<tr>
<td>India</td>
</tr>
<tr>
<td>USA</td>
</tr>
<tr>
<td>Africa</td>
</tr>
</tbody>
</table>

(Source: Economic Times dtd 15th April 2015)A

Courtesy: SEA NEWS CIRCULAR, VOL. XVII, ISSUE 1, APRIL 2015.
"HOW SAD"

Commerce department falls short of funds for building export infrastructure

The government's move towards 'fiscal federalism', resulting in direct transfer of funds to states, has left the commerce department without money to set up new expo centres or testing labs for exports.

That's because the finance ministry has decided to do away with Assistance to States for Infrastructure Development of Exports, or the popular ASIDE scheme, through which 80% of the funds were transferred to the states, based on their export performance.

The Centre allocated the remaining 20% to agencies such as APEDA, MPEDA, special economic zones (SEZs), container freight stations or ports for setting up labs and testing facilities, or bridging critical infrastructure gaps. Over the past decade or so, nearly 2,000 projects had been funded, which included 400 projects directly funded by the central agencies.

The list includes projects such as the Expo Centre in Greater Noida and infrastructure development at Nathula. As part of the revamped strategy announced in the budget, the commerce ministry will have no funds to take up such projects as the entire money will go directly to the states.

"It looks like an anomaly, which we are hoping is corrected by making funds available to us. Otherwise, central government agencies will not have funds to create export infrastructure," said an official, who did not wish to be identified. Sources indicated that the issue is being discussed with the finance ministry in the runup to the Foreign Trade Policy, which is due on Wednesday.

In fact, the commerce department could not announce the five-year policy in 2014-15 as the finance ministry was unable to set aside additional resources. Although the government's push to doing away with a majority of the Centrally Sponsored Schemes has come in for praise, it has left some of the agencies at the Centre with little funds to pursue ongoing schemes.

 Velvet: SEA NEWS CIRCULAR, VOL XVII, ISSUE 1, APRIL 2015.

INDIA'S TRADE WITH SOUTH AFRICA EXCEEDS TARGET

INDIA'S TRADE WITH SOUTH AFRICA, GROWING EXPONENTIALLY SINCE 1993, HAS BEEN MEETING SET TARGETS AHEAD OF DEADLINE, LEADING TO THE TARGET BEING REVISED TO $20 BILLION BY 2018 - WORLDVIEW - SOUTH AFRICA

SOUTH AFRICA and India, optimistic over the steady growth of bilateral trade beyond set goals over the past few years notwithstanding the global slowdown, are looking at the volume of trade increasing to $20 billion by 2018 from the earlier target of $15 billion. Commercial relations have flourished between India and South Africa since the establishment of diplomatic relations in 1993. Bilateral trade grew exponentially from $3 million in 1992-93 to $4 billion in 2005-06, and more than doubled over five years to touch $14 billion in 2013. Both sides had agreed to work towards a target of $10 billion in bilateral trade by 2012. The trade target was revised to $15 billion by 2014 as the bilateral trade target of $10 billion was achieved in 2010-11, ahead of the target date.

The two sides are hopeful that both countries will effectively increase cooperation through groupings such as BRICS and IBSA to achieve the economic and social goals set by them. South Africa is looking to Indian cooperation mainly in the sectors of information and communications technology, renewable energy and Healthcare.

Besides working together on maritime trade, to set up an 'ocean economy,' South Africa is also eagerly awaiting the establishment of the pro-
posed BRIGS Bank, to be based in China and slated to have an Indian as its first President. The bank is envisaged to fund infrastructure and development projects in BRICS and other emerging and developing economies.

Gold bullion constitute one-third of India’s imports from South Africa, while India polishes and processes diamonds from South African mines. South Africa has promoted signing a free trade agreement with India and the Southern Africa Customs Union (SACU), which includes Botswana, Lesotho, Namibia and Swaziland along with South Africa.

South Africa’s main export trading partners are the European Union, the United States, and Japan. China’s share in exports is increasing, and has risen from 1.7 percent in 1994 to nearly 11 percent in 2007. India is among the top importers to South Africa, the value of its imports being $4240 billion in 2011.

India and South Africa are currently negotiating a preferential trade agreement that is expected to considerably enhance trade. According to official sources, South Africa has FTAs with Central Africa and Eastern Africa, thus making South Africa the gateway to the African continent, providing access for foreign investors to the $200 million market.

South Africa is said to have borrowed a concept developed by India on setting up Cape Town, the capital of South Africa ‘Incubation Sectors’ under the National Small Industries Corporation and proposed to set up 250 such centres in that country by 2015. About 60 Indian companies are present in South Africa and India exports automotive components, leather, textiles, while it imports agro-processing and energy.

Since the end of apartheid foreign trade in South Africa has increased, following the lifting of several sanctions and boycotts which were imposed as a means of ending apartheid. South Africa is the second-largest producer of gold and is the world’s largest producer of chrome, manganese, platinum, vanadium and vermiculite, the second-largest producer of ilmenite, palladium, rutile and zirconium. It is also the world’s third largest coal exporter. However, mining only accounts for 3 percent of the GDP, down from around 14 percent in the 80s. South Africa also has a large agricultural sector and is a net exporter of farming products.

Principal international trading partners of South Africa - besides other African countries - include Germany, the United States, China, Japan, the United Kingdom and Spain.

India is among the top importers to South Africa. The chief exports include corn, diamonds, fruits, gold, metals and minerals, sugar, and wool. Machinery and transportation equipment make up more than one-third of the value of the country’s imports. Other imports include chemicals, manufactured goods, and petroleum.

During apartheid, South Africa’s foreign trade and investment were affected by sanctions and boycotts by other countries ideologically opposed to apartheid. In 1970, the United Nations Security Council, adopted India’s trade with South Africa resolution 282 imposing a voluntary arms embargo upon South Africa, and which was extended by subsequent resolutions 418 and 591, declaring the embargo mandatory. In 1978, South Africa was prohibited loans from the Export-Import Bank of the United States which was later followed by a prohibition on IMF loans in 1983. An oil embargo

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,660.7</td>
<td>1,980.3</td>
<td>2058.5</td>
<td>3912.37</td>
<td>4731.17</td>
<td>5106.93</td>
<td>5074.29</td>
</tr>
<tr>
<td></td>
<td>3,605.3</td>
<td>5,513.6</td>
<td>5674.5</td>
<td>7140.55</td>
<td>10971.76</td>
<td>8867.89</td>
<td>6075.26</td>
</tr>
<tr>
<td>Total</td>
<td>6,266.0</td>
<td>7,493.9</td>
<td>7732.99</td>
<td>11052.91</td>
<td>15702.94</td>
<td>13994.82</td>
<td>11149.55</td>
</tr>
</tbody>
</table>

Source: Ministry of Commerce, Government of India
was imposed by OPEC in 1983 which was strengthened by Iran.

In more modern times, Africa’s trade with Europe and the United States dominated the trading patterns until the gradual swing to the East, principally led by China, gained increasing momentum. Indian companies were fairly quick off the mark too, re-establishing contacts with the continent and expanding the volume of trade exponentially. For example, bilateral trade was worth $1 billion in 1995. By 2008, that figure had hit $36 billion, according to the African Development Bank Group, and in 2011 it had risen to $45 billion. By 2014, bilateral trade is anticipated to climb to more than $75 billion.

At present, Africa enjoys a positive trade balance with the subcontinent. India’s imports from Africa reached $18.8 billion in 2009 while exports from India to Africa were $13.2 billion in the same year, according to the African Development Bank. Exports from Africa are typically raw materials, including oil and minerals, while exports from India tend to be manufactured and finished goods, including transport equipment, industrial machinery and pharmaceuticals. Nigeria, South Africa, Kenya and Tanzania are the most important destinations for Indian products in Sub-Saharan Africa.

Oil is a central commodity shaping the economic relationship between Africa and India and, therefore, merits special attention. Mining and hydrocarbons are key drivers of Indian engagement in Africa. According to the Confederation of Indian Industry (CII), based in South Africa, India is the world’s fifth largest consumer of oil and will be in third place by 2030. As India’s population continues to rise and become wealthier, energy consumption levels are predicted to double over the next two decades.

India also imports coal from South Africa. India’s imports of crude oil from Africa have increased - from 22 million tonnes in 2004-05 to over 35 million tonnes in 2010-11, according to reports. India also imports coal from South Africa. India’s imports of crude oil from Africa have increased - from 22 million tonnes in 2004-05 to over 35 million tonnes in 2010-11, according to reports.

India is also increasingly interested in oil exploration on the continent. Exploration and production firm Cairn India, for example, has made its first overseas acquisition, when it purchased a 60 percent interest in a gas discovery block on the South African west coast. Indian oil firms have also bought into oil exploration projects in Nigeria and Libya.

Africa’s nuclear energy potential is also driving India’s interest in the region. Uranium mining, essential to power India’s nuclear energy sector, is another area that has elicited great interest from Indian companies. India is exploring uranium mining opportunities in Niger and Namibia.

Africa is an equally important source for India of precious metals and gemstones, especially gold and diamonds. India is the world’s major jewellery maker - in 2008-09, the gems and jewellery sector constituted 13 percent of India’s total exports. Furthermore, India is the world’s leading processor of diamonds, accounting for 65 percent in terms of volume on the total world market. Gold in particular defines India’s economic relations with South Africa, the latter being the world’s leading supplier of gold.

The trend of Indian investment in Africa is also positive. In South Africa, for example, cumulative investment between January 1994 and January 2011 was around $212 million, and 102 Indian firms are now in operation in the country. Overall, Indian investment in Africa is believed to be around $33 billion.

According to analysts, China’s dominance in several areas in Africa has prompted India to move into less saturated economic areas. It has focused more so than China in areas like agriculture, ICT and medicine. Indian investment in Africa is also more private-led than China’s, according to experts. Some studies suggest that India has performed better than China in terms of employing local Africans for their business ventures.

A major area of collaboration is agribusiness. India has particular knowledge of a range of areas that Africa would benefit from tapping into to help address its food security challenges, including small-farm mechanisation. Indian investment
in agriculture also has the potential to directly boost production. Another sector in which Africa could particularly benefit from cooperation with India is in its burgeoning ICT sector. Moreover, India’s Indian Technical and Economic Cooperation (ITEC) programme is a particularly useful framework in which ICT skills transfer can take place. The ITEC programme has been under way since 1964, focusing on training, specific projects, deputation of Indian experts abroad, study tours and donating of equipment.

(Courtesy : INDIAN ENGINEERING EXPORTS, APRIL 2015).

“PROTECTION”

Import duty hike may have little impact on domestic edible oil industry

The five percent increase in import duty on vegetable oil is not enough, says the edible oil refining sector. Since the announcement of an increase in import duty, the price of crude palm oil in the spot Kandla market shot up six percent to Rs 449.70 per 10 kg. Similarly, refined soy oil jumped four percent to Rs 670 per 10 kg in the benchmark Indore market.

To encourage domestic seed crushing and refining, it had urged the central government to raise the differential duty between crude and refined oil to 15 percent. The government raised the import duty by five percent on both crude palm oil (CPO) and refined, bleached and deodorised (RBD) oil, the differential duty is unchanged at 7.5 percent. The current duty on CPO and RBD is 7.5 percent and 15 percent, respectively.

The rise in duty, say trade sources, will from February begin helping domestic crushing units, while hurting refiners importing crude edible oil to refine and sell that. This is because the current oil export duty regime by both Malaysia and Indonesia ends in January. In February, the export duty on crude oils from there will automatically be 7.5 percent. Indonesia and Malaysia have both had a surplus in stocks, whose export they’ve been encouraging.

“Anticipating the duty rise, Indian refiners had intensified import of crude palm oil (CPO). The rise was 40 percent in November-December, resulting in a massive swell into the pipeline inventory at an all-time high of around two million tonnes.

Also, oilseed prices have hit a five-year low, with lower crushing. Soybean, for example, is trading at Rs 3,180 a quintal, a decline of 16 percent from Rs 3,790 a quintal in December 2013. In the past year, refined oil prices have declined by 18 percent to Rs 48,000 a tonne. Crude degummed soy oil is currently down by 13 percent to Rs 58,500 a tonne and CPO by 26 percent to Rs 41,000 a tonne.

“The major objective of the government in raising the import duty on veg oil was to check rising imports, which could have been possible through encouraging of domestic refiners. Since there has been no change in the differential duty, import would continue unabated. Domestic refiners will continue to face a disparity, currently at Rs 1,000 a tonne on soybean oil,” said Mehta.

Of the estimated 19.5 million tonnes of overall demand, India’s import in 2014-15 (November-October) is forecast at 12.3 mt. Lower seed availability might raise our import dependence, primarily from Malaysia and Indonesia. The Central Organisation for Oil Industry & Trade has estimated the kharif oilseed output at 27.6 mt this year as compared to 29.35 mt the previous year, due to delay in sowing after a month’s delay in monsoon rain.

Output during the rabi season will also be lower. Against normal rabi oilseed sowing of 8.68 million hectares, about 7.2 mn ha has been done till now.

“India’s import of edible oil will continue to grow, as the revision in import duty will have negligible impact on availability from local sources,” said Siraj Choudhary, chairman.

(Courtesy : GRAINS ASIA, FEBRUARY 2015).

OTAI NEWS LETTER (WZ) Vol. XVII No.5 July - September 2015
"SAD NOTE"

Oilseed crushing dips by 15-20 %

Oilseed crushing this oil year (November to October) is expected to be lower than last year by 15-20 percent on the back of higher imports of edible oil and lower arrivals of soybean on the spot markets. Also, only 40 percent of the total crushing capacity in India is being used due to pricing disparity. Last year, 33 million tonnes of oilseeds were crushed domestically. The disparity in crushing currently stands at $40 to $50 a tonne, which is not viable for a crusher. Also, the margins have decreased and it has been negligible for the past two years, which has had a negative impact.

"With farmers not bringing stocks to the market and given the disparity and lower global prices of edible oil, oilseed crushing sector is being negatively impacted. There is a glut of edible oil globally due to which it is cheaper to import edible oil than crush oilseeds locally," said Sandeep Bajoria, CEO of Sunvin Group.

Edible oil imports have been constantly hitting new highs with domestic consumption rising coupled with cheaper international rates of edible oil. Crude palm oil is currently being imported at $650 a tonne and crude soybean oil at $840 a tonne. Indian prices of RBD palm oil price on Kandla port is currently at Rs 55,000 a tonne.

Last oil year, edible oil imports stood at 11.8 million tonnes, which were record imports and this year it is expected to go up to 12.3 million tonnes, which will also be at an all-time high. Domestic consumption of edible oil is rising two-to-three percent every year.

"This year, around 700,000-700,500 tonnes of soybean is expected to be crushed compared to 1.1-1.2 million tonnes last year. This year, crushing has been impacted in quite adversely. Usually this time of the year, around 60 percent of edible seeds is crushed but this year it is lower," said Atul Chaturvedi, CEO of Adani Wilmar.

The sector has asked the government to raise the import duty on crude palm oil to make the refining and fats business viable. Owing to a five percent difference between crude and refined oil, the edible oil business has suffered immensely. Since the edible oil crushing and refining business offers disparity, large players are focusing on value-added segment, where business potential is quite high. Solvent Extractors’ Association of India (SEA) has asked the government to raise import duty on crude vegetable oil to five percent from 2.5 percent currently paid refined oil to 15 percent from 7.5 percent.

(Courtesy: GRAINS ASIA, FEB. 2015).

"GREAT IDEA"

Enhancement of Oilseed Production Industry Perspective

Skill and knowledge are the two driving forces of economic growth and social development for any country. Countries with higher level of skills fare better to cope with the challenges of emerging economies in the present day world. In India, it is set to be a big issue since around 119 million additional skilled work force will be required by 24 sectors such as construction, retail, transportation logistics, automobile, and handloom by 2022. According to the skills gap report commissioned by National Skill Development Corporation, most of the sectors except agriculture will require more skilled workforce in the next seven years.

Among the major sectors, building, construction & real estate would require additional skilled workforce of 31.13 million, followed by retail 17.3 million, transportation and logistics 11.66 million and beauty 6k well ness 10.09 million. The report found that 7.18 million additional workforce would be required by furniture and furnishing, 6.48 million by tourism, hospitality and travel, 6.14 million by hand looms &L handicraft, 3.9 million required by auto & auto components and 900,000 by media and entertainment

The employment base of agriculture was 24 crore people in 2013. However, the projected number of skilled workforce in the sector by 2022 is pegged at 21.56 crore showing a reduction of 2.48 crore people in the incremental human resource requirement. It was found that the incremental human resource requirement across 24 sectors
is nearly 119 million (11 crore 90 lakh) whereby the top 10 sectors including automobile, retail, handloom, leather, etc. account for about 80% of requirements.

In such scenario, Prime Minister must plan policies to produce skilled manpower. The recently approved Pradhan Mantri Kaushal Vikas Yojana (PMKVY), is a flagship scheme for imparting skill training to youth, focussing on improved curricula, better pedagogy and trained instructors. The training includes soft skills, personal grooming, behavioural change et al. The central government led by PM Narendra Modi therefore must ensure that his flagship scheme must be improperly implemented and bridge the gap between skilled manpower and industry.

Skill and entrepreneurship development is one of the high priority areas of the present Government. The newly formed Ministry of Skill and Entrepreneurship Development, is to play a critical role in fulfilling the objectives of the ‘Make in India’ campaign, a major initiative to turn India into a major manufacturing hub. The Ministry is to play a pivotal role in creating a skilled workforce to meet the demands of growing economy in different sectors including the manufacturing sector.

India has marked its presence as one of the fastest growing economies of the world. It is expected to rank amongst the world’s top three growth economies and amongst the top three manufacturing nations by 2020. But to sustain the development agenda, producing skilled manpower is the need of the hour and must be on the top osuf PM’s agenda.

Surinder Gupta

(Courtesy: Business Empire, April 2015.)

“BE PRACTICAL”

Leap towards hassle-free procedures

WHENEVER one has to appear for a job interview, apply for a passport or open a bank account, getting the documents attested by a gazetted officer or any authorised signing authority has always been a big hassle. However, these cumbersome preconditions like attestations and affi-
davits are undergoing a landmark reform. In a constant endeavour of the Government to simplify procedures of attestation and certification, all Central Ministries/ Departments as well as State Government/ UTs have been requested to review the existing requirement in this regard and make provision for self certification, wherever possible.

Background

Self attestation is an essential method to affirm that the copies of documents presented as proofs of one’s identity and whereabouts are true and original. In a country which still functions on paperwork, a lot of documents have to be submitted along with every form we fill. The last dates for the forms approach so soon and half of the times we are worrying about where to find a gazetted officer who will attest the copies of our original documents. We end up calling friends, relatives to find one person who would attest our documents so that the form gets submitted in time.

Recently Government of India has asked all its departments and state governments to make provisions for self-certification and accept documents which are self-attested as a confirmation of identity in place of attestation by a gazetted officer. This practice has already been adopted by some of the Central Government agencies and is being introduced in various states gradually. University Grants Commission has also issued special instructions through D.O.No.F. 14-1412014(CPP-11) dated 26th September, 2014 regarding abolition of affidavits and adoption of self certification. This move comes as a big relief not only to the students but also to the individuals associated with the academics.

Self-attestation would save time and money as people will not have to chase officers for attestation of documents. It has been seen that some of these officers charge for these services making it a part-time business. In most of the cases one hardly knows the gazetted officer and getting documents attested by a stranger seems pointless. If the government’s idea behind attestation is an assurance of the person’s identity and character then a document attested by a stranger is useless. The government’s initiative of switching over to self-attestation is a welcome move as it also gives us the opportunity to take responsibil-
No legal hassle in going for this positive change

Self-certification might seem risky as not all self-attested documents will be true but this puts the blame directly on the person who is attesting false documents. He/she will be solely responsible for any false documents attested by them.

The advantages of self-attestation are that the public agencies can impose penal liability for making wrong statements in terms of suspension of the services (suspension of ration card facilities, disconnection of power supply, etc.). This will save a lot of botheration and sizeable expenses for the citizen who has to procure stamps/stamp paper which is mostly not available at the place where the affidavit is to be submitted.

There appears to be no legal problem in adopting this practice. The Indian Penal Code contains a number of Sections such as 177, 193, 197, 198, 199 and 200. These Sections specifically deal with the implications of any false information/ evidence/ disclosure/ declaration made by the deponents and, any such instances included shall be liable to imposition of penalties, fines, registration of criminal cases and even imprisonment, as the case may be.

DigiLocker: Another Giant leap

The Department of Electronics & Information Technology (Deity) has recently launched an Aadhaar-based e-locker service for storing documents. Users will be able to store electronic versions of important documents like birth certificates, voter ID cards, academic documents, etc in the e-locker. They can also electronically sign these documents with the e-sign facility, which is currently still being tested, and then share them with government organisations or other entities when required. The sharing of e-documents will be done through a registered repository, which will ensure that the documents are authentic. This is likely to reduce usage of fake documents to a certain extent and also minimize time spent on authenticating documents. To Sign-up for the DigiLocker you need to have an Aadhaar number and a mobile number registered with Aadhaar.

Following are the key features of the DigiLocker:

i. Digital Locker of each resident is linked to their Aadhaar number.

ii. 10MB of free space in the locker to securely store resident documents and store links (URL) of Govt. department or agency issued e-documents. The storage space allocation will be increased to 1GB in subsequent release.

iii. eSign online service to digitally sign the documents online without using dongle. For details please refer to the e-Sign brochure available on the portal.

iv. Sharing of e-documents online with any registered requester agency or department

v. Download eAadhaar

vi. List of issuers who have issued e-documents to residents and list of requesters which have accessed resident’s documents.

More information on the futuristic service can be found on: https://digitallocker.gov.in.

It is extremely important for all of us to create awareness among the citizens about the concept of self-attestation which is purely in favour of the commoners. This whole concept revolves around trust and responsibility. Self-certification is a citizen-friendly initiative by the government of India that marks a departure from the cumbersome system established since decades.

(Courtesy: Business Empire, April 2015.)
"AMAZING"
Thailand develops pest and cold resistant rice variety

THAILAND'S Pathum Thani Rice Research Center has developed a new rice variety called Thani 200 or Kor. Khor.57 that can withstand colder climates as well as resistant to pests, according to local sources. The Director of the Rice Center, a unit of the Rice Department, noted that the new rice variety is a hybrid of the popular Suphanburi 1 and IR 64 strains. He added that the researchers of the Rice Center have taken more than a decade to develop this variety. He also noted that the new hybrid variety is resistant to brown planthopper and is suitable for growing in provinces with colder climatic conditions. The Director said the new variety is also suitable for making byproducts such as rice flour. He noted that the Department is planning to produce the new variety as rice seed before distributing it to farmers.

According to the Director, the Rice Department currently faces a shortage of rice seeds by about 500,000 tons annually and fills the demand from private companies. He noted that the introduction of the new variety also may not reduce the problem of seed shortfalls. The Rice Department currently spends about 5 baht per kilogram (around $0.15 per ton) for Horn Mali rice seed, 1617 baht per kilogram (around $491 per ton) for white rice seed and 22 baht per kilogram (around $675 per ton) for glutinous rice seed.

(Courtesy: Business Empire, April 2015.)
Technology

“GREAT”

India: Drought-tolerant rice creates high hopes among farmers in Hazaribagh district

By:
O.K. Raghav, R. K. Singh, Mayank Sharma, and ManzoorH.Dar

HOLY Cross Krishi, Vigyan Kendra (KVK), an agricultural extension center and ... partner of the Stress-Tolerant Rice for Africa and South Asia (STRASA) project in Hazaribagh (Jharkhand) organized a field day featuring a rice variety demonstration of the drought-tolerant Sahbha dhan at Village-Khodharon 10October 2014.

The demonstration was supervised by Holy Cross KVK under International Rice Research Institute (IRRI)-National Food Security Mission (NFSM) collaborative project in a 100 hectare area of 10 drought-prone villages in Hazaribagh district. Seed and other inputs were provided to the farmers. The farmers were also trained in quality seed production and safe storage so that they can keep the seed for the next cropping seasons and share with other farmers.

Sahbhagi dhan matures earlier and requires less water than traditional and hybrid varieties, said most of the farmers who participated in the demonstration. One of the farmers claimed Sahbhagi dhan had more panicles with more number of grains as compared to other traditional varieties. The yield recorded ranged between 3.5 tons per hectare for direct seeding and 6 tons per hectare under transplanted conditions. The farmers also reported that their fields would remain fallow due to drought, but this year’s Sahbhagi dhan crop yielded enough to feed their families and livestock.

Surendra Kumar Singh, District Agriculture Officer of Hazaribagh, emphasized the importance of disseminating the variety in other drought-affected areas. Mr. S.K. Singh also asked farmers to take initiative to adopt the high-yielding, drought-resistant Sahbhagi dhan as a farming community strategy.

Dr. S. N. Giri, deputy director of the Seed and Farm, BAD Ranchi, said that this variety is suited to mitigate drought effects under climate change scenarios. It can ease the fallow field problem during kharif season, he added. In the past, farmers cultivating longer duration traditional varieties and hybrids suffered heavy losses due to drought and scanty rainfall.

The field day was organized by Mr. S.K., Dr. S.N. Giri, Dr. R.K. Singh (Programme Coordinator, KVK), Dr. O.K. Raghav, Mr. S.N. Chaudhary, and Mr. D. Rai of Holy Cross KVK. About 160 farmers from surrounding villages were also present.

Under IRRI-NFSM project, 150 such field days/ farmers’ awareness meetings have been organized by more than 50 partners in seven eastern states in India. An estimated 8,000 farmers, including farmers from ten drought prone districts in Jharkhand, have participated in these meetings during kharif season 2014-15.

(Courtesy: GRAINS ASIA, FEBRUARY 2015).
"LOSS"

Wheat output losses predicted owing to rising temperatures

For the first time, an international consortium of researchers have used a systematic multi-model test to exploit data from field and artificial heating experiments to focus on the responses of wheat to high temperatures.

The consensus from this international multi-model test predicts that global wheat production will drop by six per cent for each degree centigrade of global warming together with increased variability of yield across regions and seasons.

Thirty wheat crop models were compared within the Agricultural Model Inter-comparison and Improvement Project (AgMIP) with two previously unpublished data sets from field experiments in which wheat was exposed to mean temperatures ranging from 15°C to 32°C during the growing season.

The first experiment was the Hot-Serial-Cereal experiment with a wide range of sowing dates and artificial heating treatments. The second experimental set was from the International Maize and Wheat Improvement Centre (CIMMYT) multi-location experiments that were spread across seven temperature environments worldwide.

Many of the individual simulation models predicted wheat yields accurately for typical conditions, however, when effects of higher temperatures were tested, the results of the model simulations were more variable. Nevertheless, by combining results from all models, the ensemble median was consistently more accurate in simulating temperature responses than any single model and reproduced observations well.

Extrapolating the predictions of the multi-model ensemble indicated global wheat production losses of six per cent for each degree centigrade of global warming with increased variability of yield across regions and seasons.

Dr Mikhail Semenov, whose team at Rothamsted Research contributed to this research, said: "Options exist to adapt and mitigate the adverse effects of climate change on global wheat production."

"Breeding for late maturing cultivars with longer grain filling to recapture the temperature-induced loss of biomass and grain yield could be beneficial as long as exposure to heat stress and terminal drought does not become counter-productive. Optimizing this trade-off should be region specific, and crop modelling is a key exploration tool to underpin adaptation for a changing climate."

(Courtesy : GRAINS ASIA, FEBRUARY 2015).