Prepared By:

Prepared For:

An Update Document-

Market and Business Environment Report— Plant Micronutrients

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Plant Micronutrients

Product Overview- Plant Micronutrients

Micronutrients are essential plant nutrients that are found in trace amounts in tissue but play an imperative role in plant growth and development. Without these nutrients, plant nutrition would be compromised leading to potential declines in plant productivity. Of the 17 elements essential for plant growth, eight are micronutrients: boron (B), chlorine (CI), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo), zinc (Zn) and nickel (Ni).

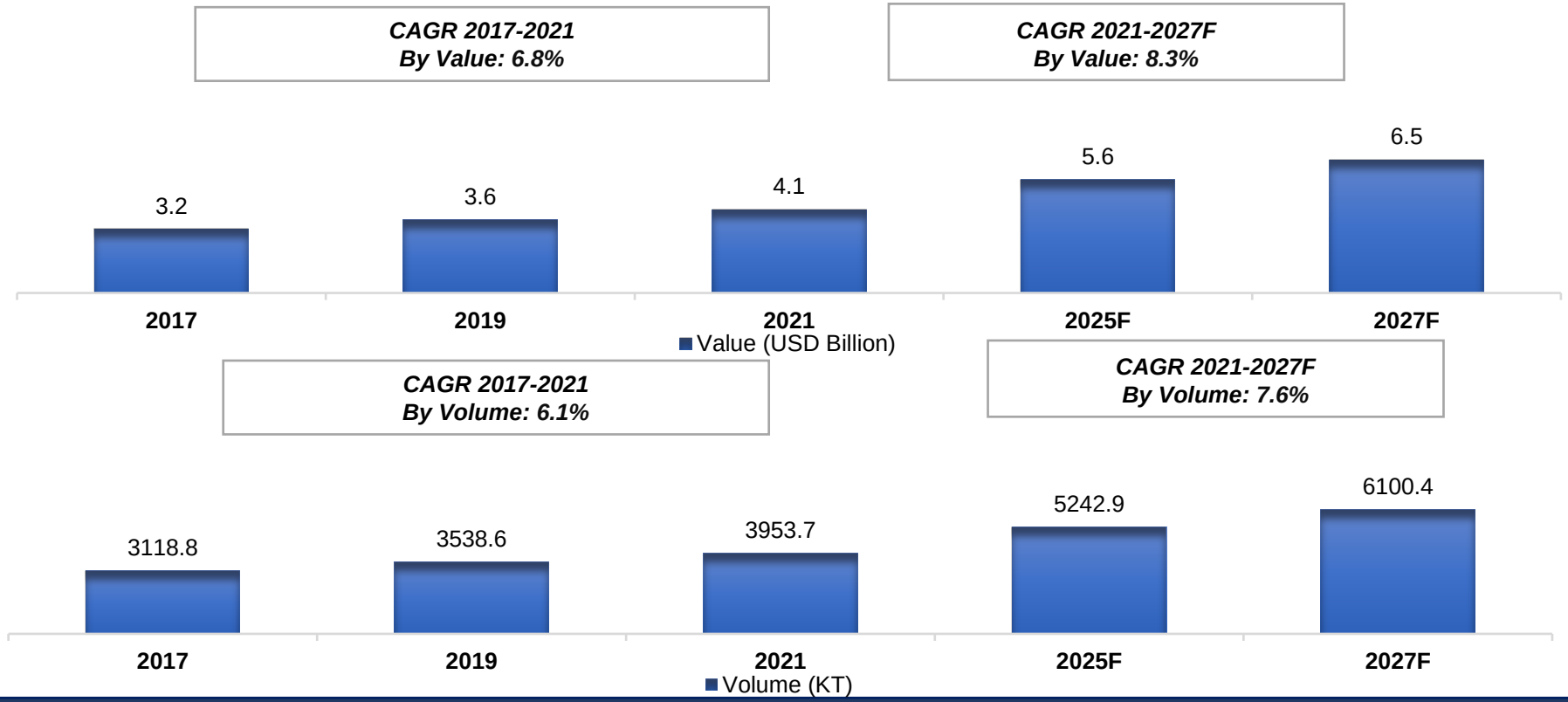
Mineral elements nurture horticultural crops and also crops of cereals, pulses, oilseeds, spices, and plantation. In spite of the low demand, critical plant functions are hindered if micronutrients are unavailable, which results in plant deformations, lower yield, and diminished growth. Micronutrients are crucial for plant growth and play an important role in balancing crop nutrition.

There is increasing interest from the agricultural community in micronutrient fertilization for a variety of reasons including:

- soil erosion and long-term cropping have resulted in the removal of micronutrients from soils;
- increasing crop yields generally leads to greater micronutrient removal rates in grain and other harvested products; and
- the widespread replacement of micronutrient-rich manures with mineral fertilizers has reduced micronutrient addition from fertilizer sources. Collectively, these factors have led farmers to question whether micronutrient fertilization may now be required to meet the changing demands of crop nutrition.

Global Plant Micronutrients Market, By Value & Volume

Figure 1: Global Plant Micronutrients Market Size, By Value (USD Billion) & By Volume (in KT), 2017, 2019, 2021, 2025F, 2027F

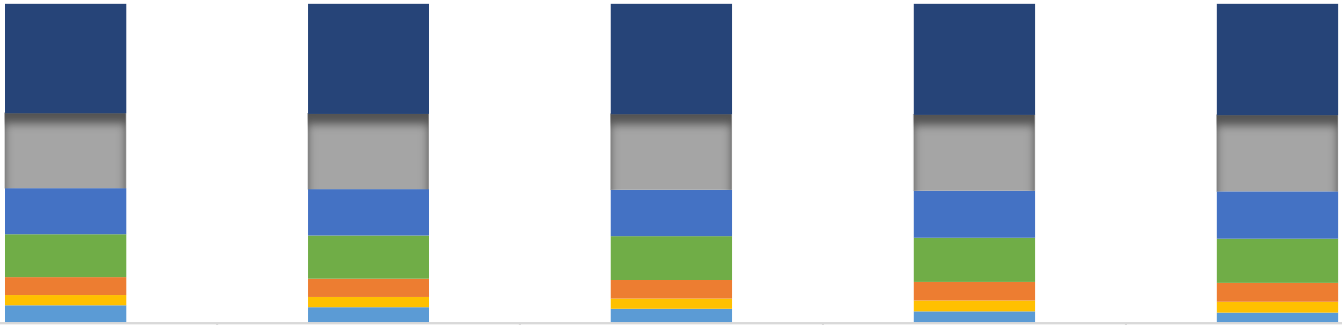


- Global Plant Micronutrients market stood at USD 3.6 billion and is expected to reach USD 6.5 billion at a CAGR of 8.3% by 2027
- This is attributable to the deteriorating soil quality in cultivated lands. Micronutrients for crops are essential for plant growth and metabolic processes.
- The market for crop micronutrients is expanding as a result of factors like rising public awareness of the advantages of crop micronutrients for crop productivity and yields.

Source: ChemAnalyst

Global Plant Micronutrients Market, By Value

Figure 2: Global Plant Micronutrients Market, By Type, By Value (USD Billion), 2017, 2019, 2021, 2025F, 2027F



	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	1.1	1.2	1.4	1.9	2.3
Borax / Boric Acid (B)	0.7	0.9	1.0	1.3	1.6
Manganese Sulphate (Mn)	0.5	0.5	0.6	0.8	1.0
Ferrous Sulphate (Fe)	0.4	0.5	0.6	0.8	0.9
Copper Sulphate (Cu)	0.2	0.2	0.2	0.3	0.4
Magnesium Sulphate	0.1	0.1	0.1	0.2	0.2
Others	0.2	0.2	0.2	0.2	0.2
Total in USD Billion	**3**	**3**	**4**	**5**	**6**

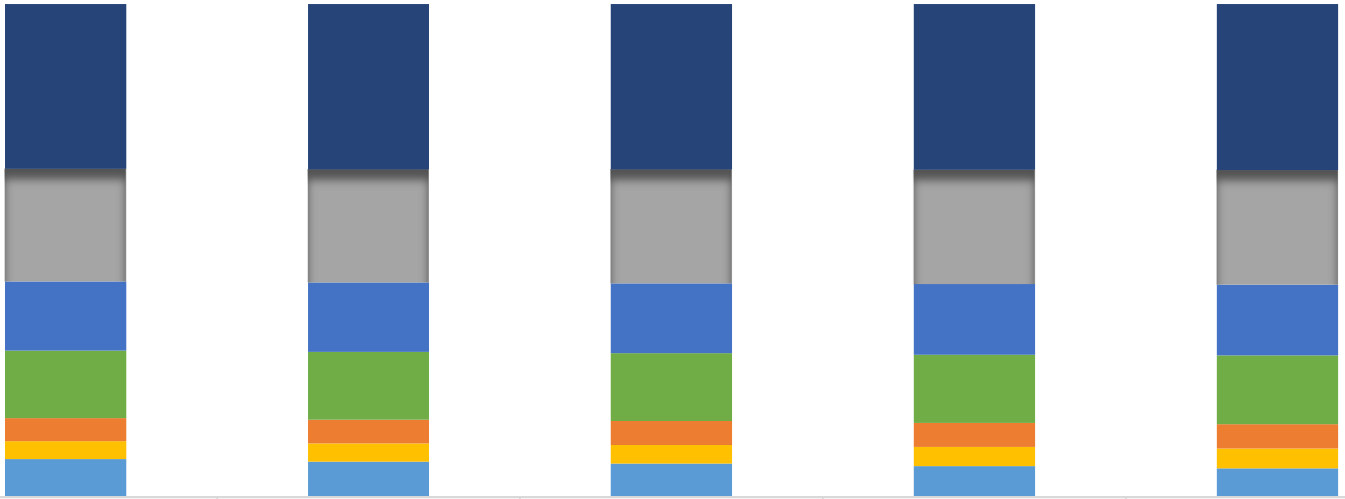
Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

- Zinc Sulphate is the most demanded micronutrient globally, having a market share of more than 30%, and it stood at USD 1.4 billion in FY2021.
- In the forecast period, it is expected that zinc sulphate will dominate the plant micronutrients with a market share of over 30%.

Source: ChemAnalyst

Global Plant Micronutrients Market, By Volume

Figure 3: Global Plant Micronutrients Market, By Type, By Volume (KT), 2017, 2019, 2021, 2025F, 2027F



	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	1042.3	1186.5	1327.7	1763.7	2055.8
Borax / Boric Acid (B)	711.7	811.4	911.3	1213.7	1414.1
Manganese Sulphate (Mn)	437.6	497.9	559.5	749.7	876.6
Ferrous Sulphate (Fe)	425.7	485.9	544.8	725.1	851.0
Copper Sulphate (Cu)	145.6	169.9	191.4	255.3	300.8
Magnesium Sulphate	113.8	132.0	149.1	205.5	242.8
Others	242.0	255.1	270.0	329.8	359.3

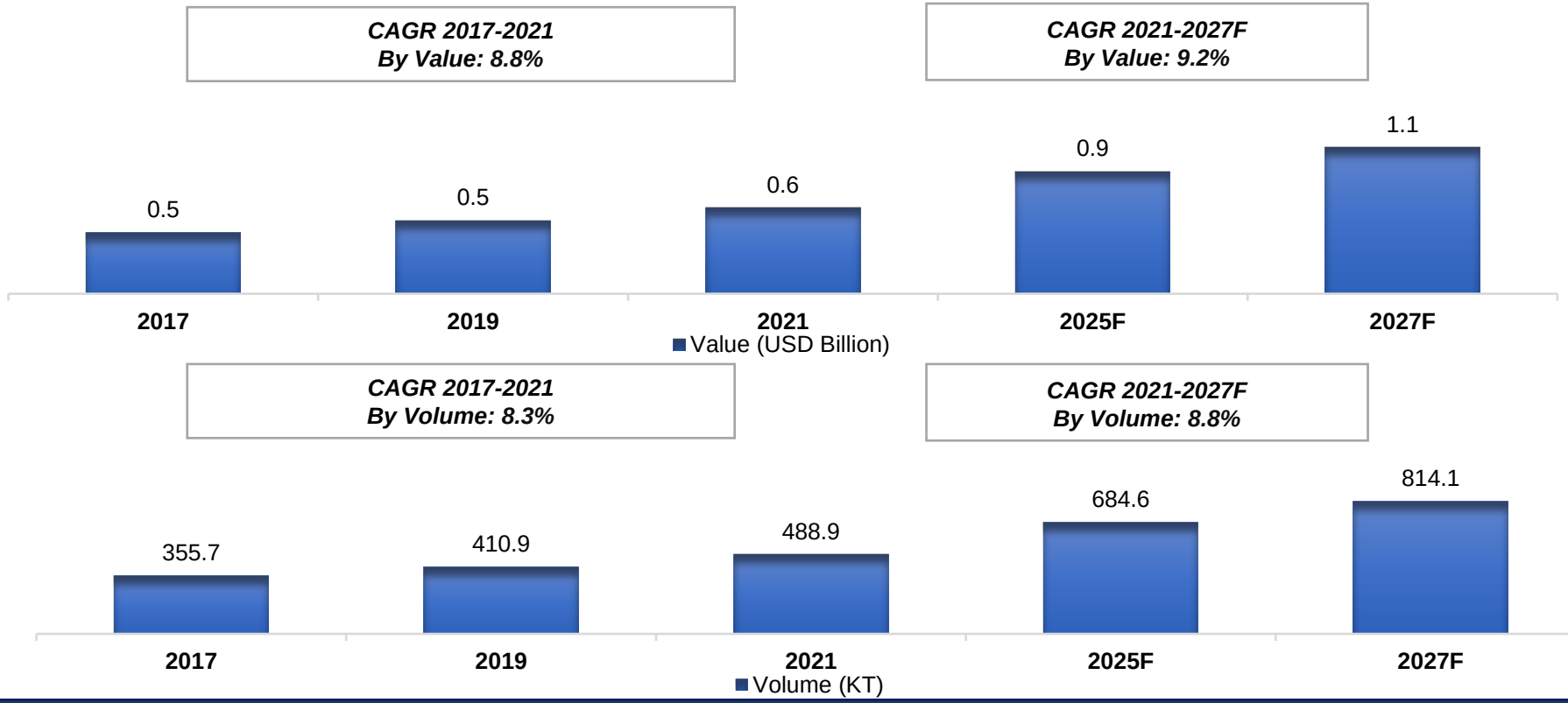
Total in KT	3118	3539	3954	5243	6100

Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

Source: ChemAnalyst

India Plant Micronutrients Market, By Value & Volume

Figure 4: India Plant Micronutrients Market Size, By Value (USD Billion) & By Volume (in KT), 2017, 2019, 2021, 2025F, 2027F

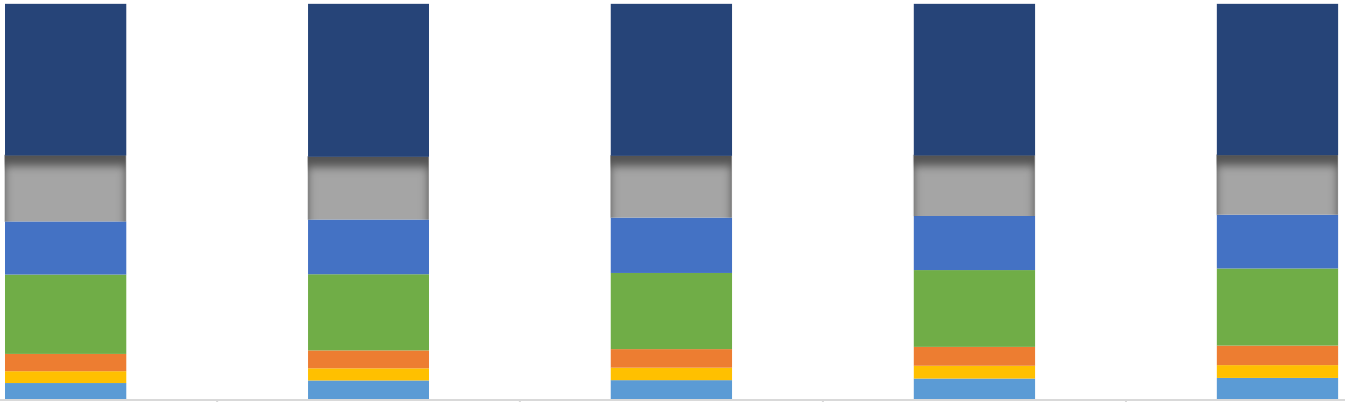


- India Plant Micronutrients market stood at USD 0.6 billion and is expected to reach USD 1.1 billion at a CAGR of 9.2% by 2027.
- Micronutrients are essential for a balanced diet and a great tool for farmers to improve crop quality and yield.
- The market value for agricultural micronutrients has increased as a result of the expanding trend of biofortification in mungbean, wheat, maize, potatoes, and sweet potatoes.

Source: ChemAnalyst

India Plant Micronutrients Market, By Value

Figure 5: India Plant Micronutrients Market, By Type, By Value (USD Billion), 2017, 2019, 2021, 2025F, 2027F



	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	0.2	0.2	0.2	0.3	0.4
Borax / Boric Acid (B)	0.1	0.1	0.1	0.1	0.2
Manganese Sulphate (Mn)	0.1	0.1	0.1	0.1	0.1
Ferrous Sulphate (Fe)	0.1	0.1	0.1	0.2	0.2
Copper Sulphate (Cu)	0.0	0.0	0.0	0.0	0.1
Magnesium Sulphate	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.1
Total in USD Billion	**0.4**	**0.5**	**0.6**	**0.9**	**1.1**

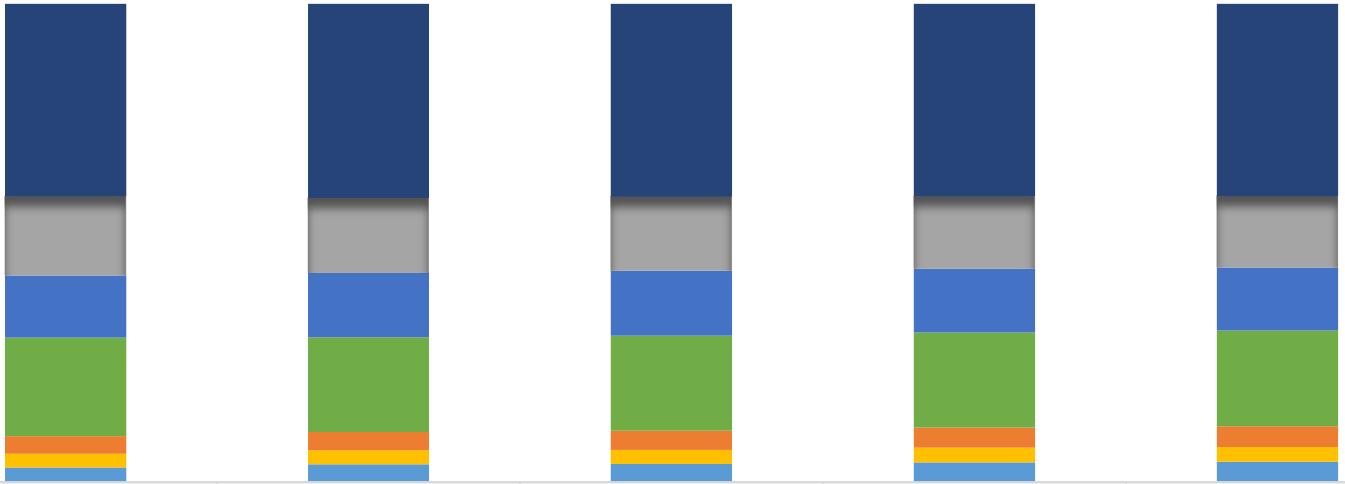
Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

- Zinc Sulphate remains the highest demanded micronutrient in India in terms of value, having a market share of more than 40%, and it stood at USD 0.2 billion in FY2021.

Source: ChemAnalyst

India Plant Micronutrients Market, By Volume

Figure 6: India Plant Micronutrients Market, By Type, By Volume (KT), 2017, 2019, 2021, 2025F, 2027F



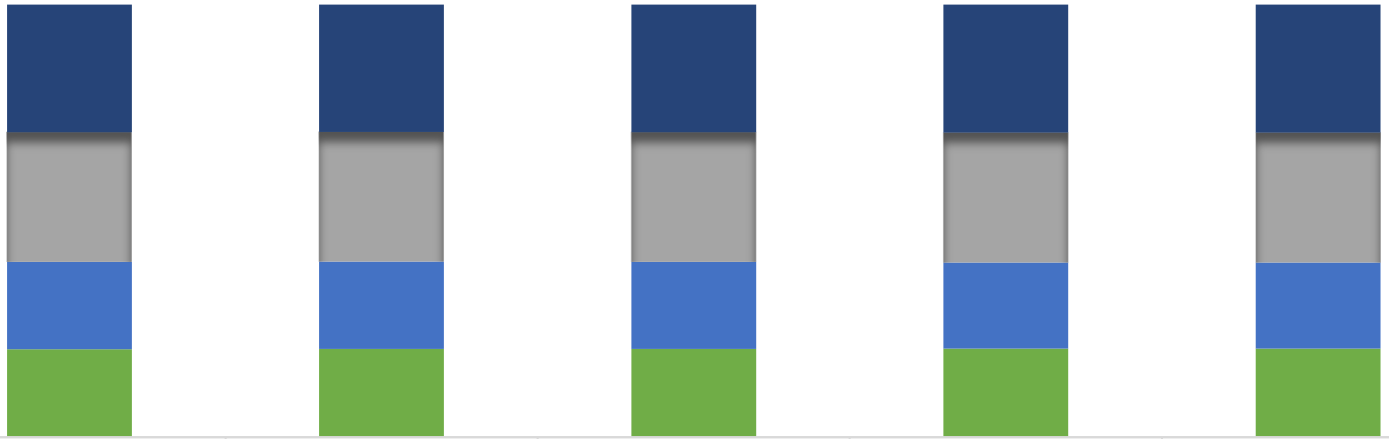
	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	143.2	167.0	197.1	275.8	327.1
Borax / Boric Acid (B)	58.7	64.3	75.6	103.3	121.4
Manganese Sulphate (Mn)	46.4	55.3	66.5	91.1	107.6
Ferrous Sulphate (Fe)	73.2	81.3	97.0	136.4	162.7
Copper Sulphate (Cu)	13.2	15.8	19.7	28.9	35.4
Magnesium Sulphate	10.1	11.9	14.4	21.0	25.3
Others	10.9	15.3	18.5	28.1	34.7
Total in KT	**356**	**411**	**489**	**685**	**814**

Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

Source: ChemAnalyst

India Plant Micronutrients Market, By Value

Figure 7: India Plant Micronutrients Market, By Region, By Value (USD Billion), 2017, 2019, 2021, 2025F, 2027F



	2017	2019	2021	2025F	2027F
North	0.1	0.2	0.2	0.3	0.3
South	0.1	0.2	0.2	0.3	0.3
East	0.1	0.1	0.1	0.2	0.2
West	0.1	0.1	0.1	0.2	0.2

Total in USD Billion	0.4	0.5	0.6	0.9	1.1

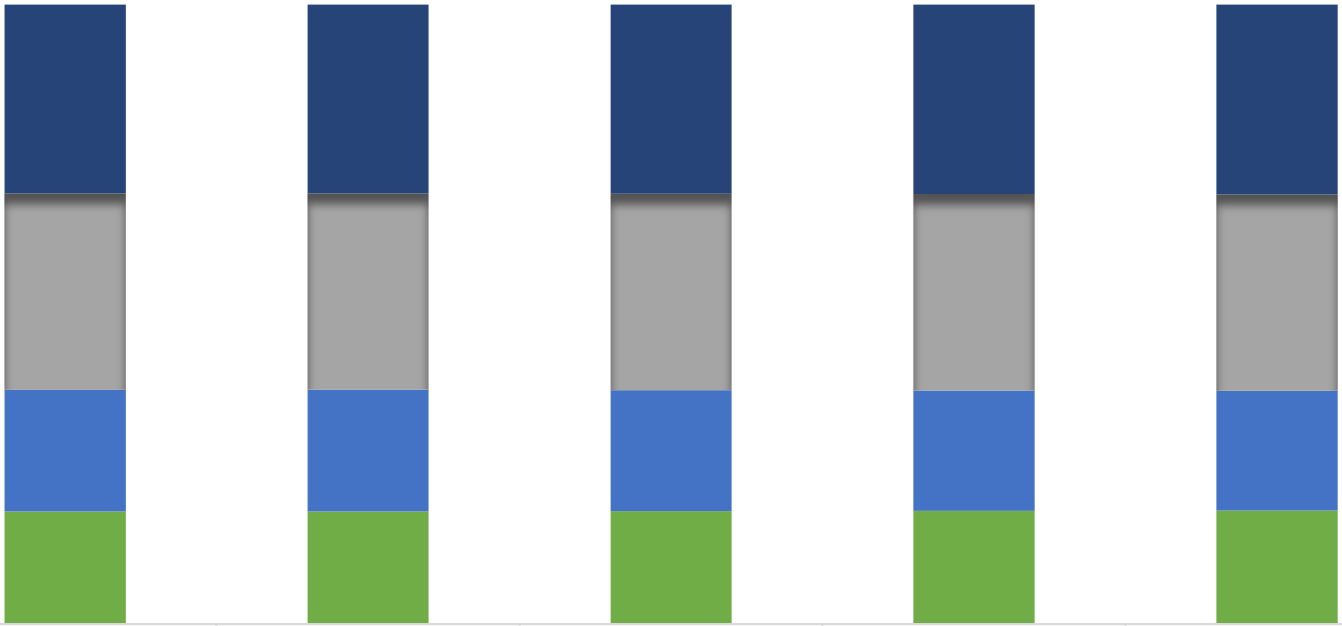
Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

- South Region holds the largest market share in plant micronutrients market with highest consumption of fertilizers in the FY 2020-21.
- In the forecast period, it is expected that south region will dominate the plant micronutrients market with a market share of over 30%.

Source: ChemAnalyst

India Plant Micronutrients Market, By Volume

Figure 8: India Plant Micronutrients Market, By Type, By Volume (KT), 2017, 2019, 2021, 2025F, 2027F



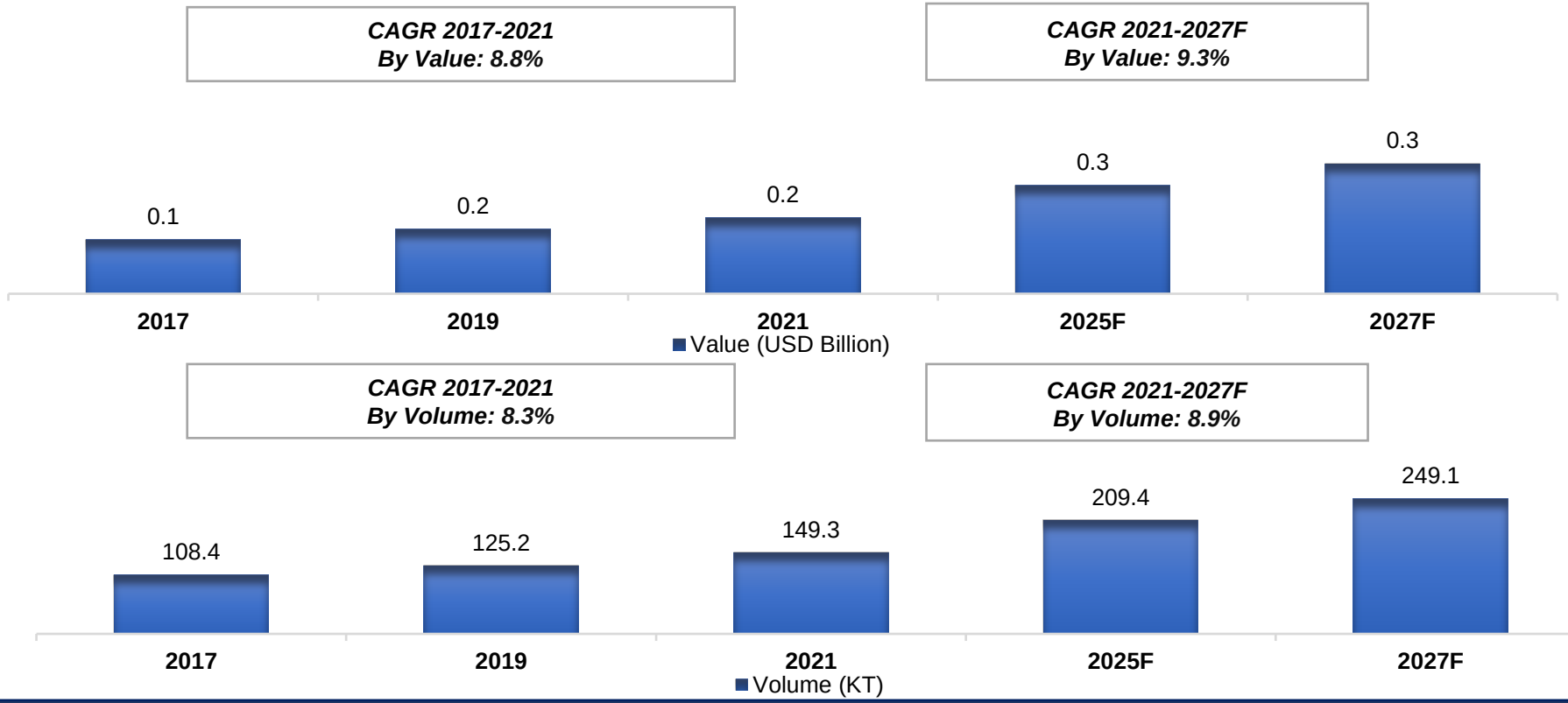
	2017	2019	2021	2025F	2027F
North	108.4	125.2	149.3	209.4	249.1
South	112.8	130.2	155.1	217.2	258.3
East	69.7	80.7	95.4	132.7	157.4
West	64.7	74.8	89.1	125.3	149.2
Total in KT	**356**	**411**	**489**	**685**	**814**

Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

Source: ChemAnalyst

North India Plant Micronutrients Market, By Value & Volume

Figure 9: North India Plant Micronutrients Market Size, By Value (USD Billion) & By Volume (in KT), 2017, 2019, 2021, 2025F, 2027F

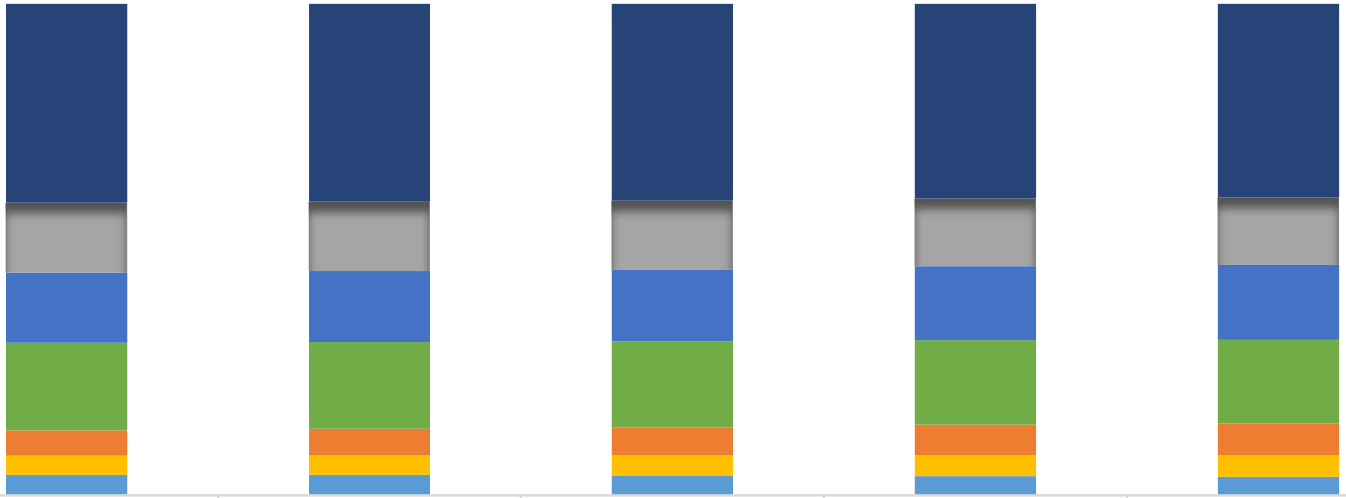


- North India Plant Micronutrients market stood at USD 0.2 billion in 2021 and is expected to reach USD 0.3 billion at a CAGR of 9.3% by 2027.
- In terms of volume, the market stood at 149.3 KT in 2021, and is expected to reach 249.1 KT at a CAGR of 8.9% by 2027.
- Increasing population pressure and overexploitation of productive lands creates serious problem of lowering the fertility status of soil and it leads to deterioration of soil.

Source: ChemAnalyst

North India Plant Micronutrients Market, By Value

Figure 10:North India Plant Micronutrients Market, By Type, By Value (USD Billion), 2017, 2019, 2021, 2025F, 2027F



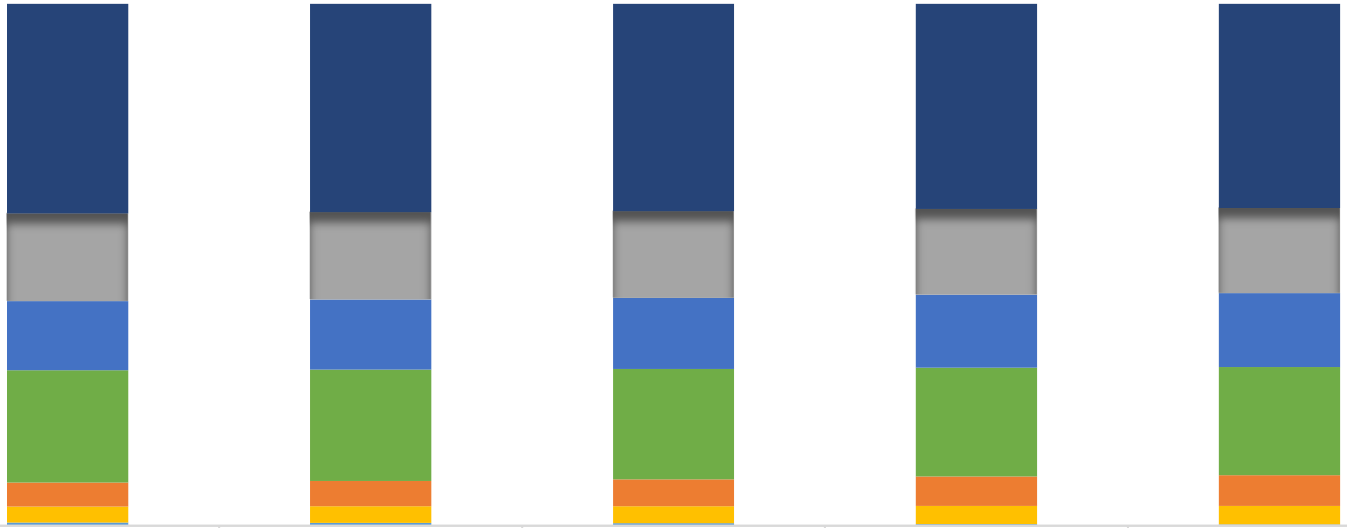
	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	0.1	0.1	0.1	0.1	0.1
Borax / Boric Acid (B)	0.0	0.0	0.0	0.0	0.0
Manganese Sulphate (Mn)	0.0	0.0	0.0	0.0	0.0
Ferrous Sulphate (Fe)	0.0	0.0	0.0	0.0	0.1
Copper Sulphate (Cu)	0.0	0.0	0.0	0.0	0.0
Magnesium Sulphate	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0

Total in USD Billion	0.1	0.2	0.2	0.3	0.3

Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

Source: ChemAnalyst

Figure 11: North India Plant Micronutrients Market, By Type, By Volume (KT), 2017, 2019, 2021, 2025F, 2027F



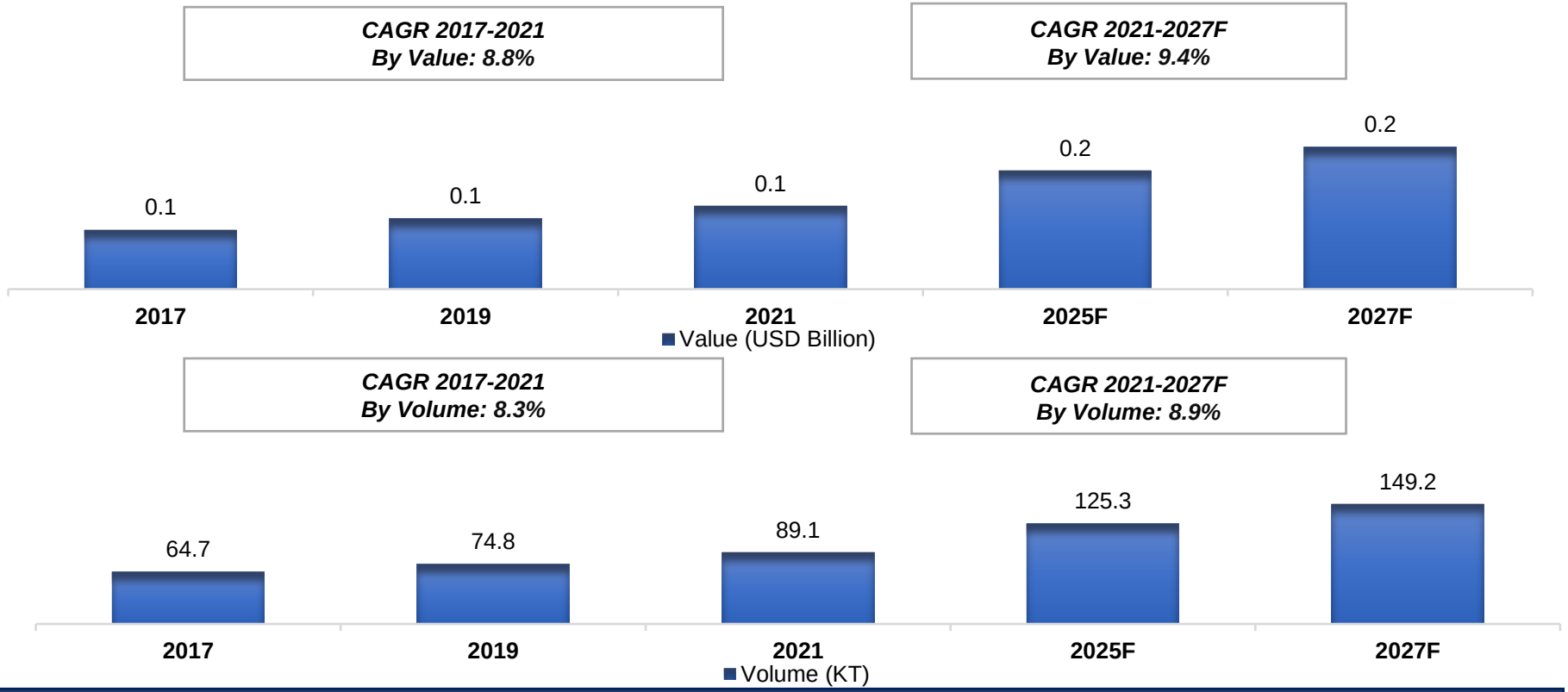
	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	43.5	50.0	59.3	82.3	97.4
Borax / Boric Acid (B)	18.2	20.9	24.8	34.4	40.6
Manganese Sulphate (Mn)	14.4	16.8	20.3	29.3	35.3
Ferrous Sulphate (Fe)	23.3	26.7	31.6	43.7	51.6
Copper Sulphate (Cu)	5.0	6.1	7.7	11.8	14.7
Magnesium Sulphate	3.3	4.0	4.9	7.3	8.9
Others	0.7	0.7	0.7	0.7	0.5
Total in KT	**108**	**125**	**149**	**209**	**249**

Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

Source: ChemAnalyst

West India Plant Micronutrients Market, By Value & Volume

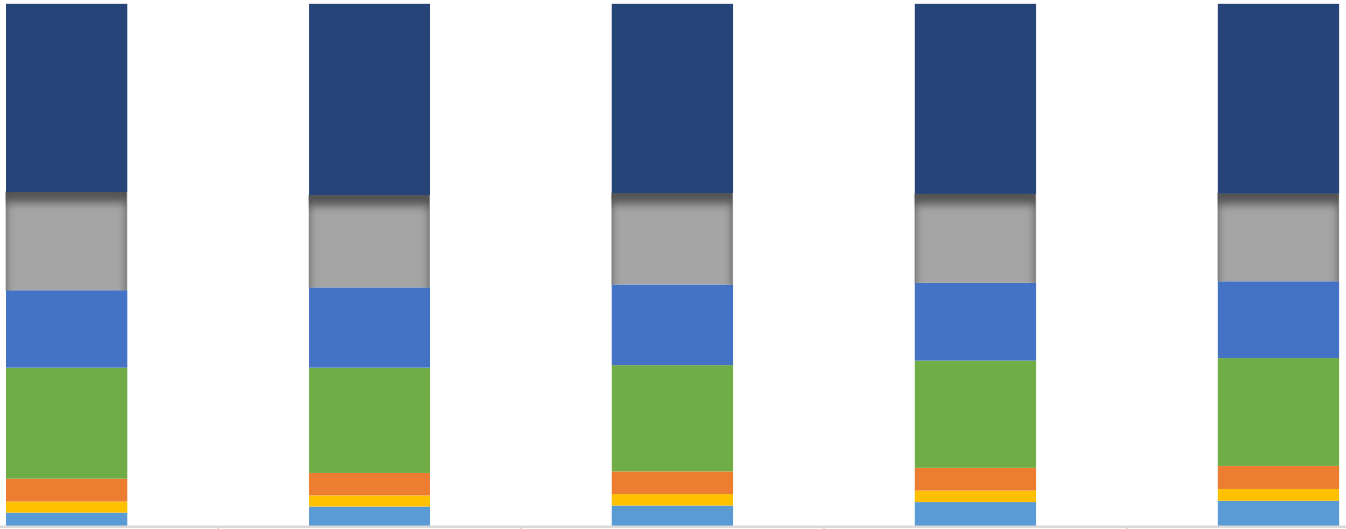
Figure 12: West India Plant Micronutrients Market Size, By Value (USD Billion) & By Volume (in KT), 2017, 2019, 2021, 2025F, 2027F



- West India Plant Micronutrients market stood at USD 0.1 billion and is expected to reach USD 0.2 billion at a CAGR of 8.9% by 2027.
- As micronutrients, there are seven important elements for plants: boron (B), zinc (Zn), manganese (Mn), iron (Fe), copper (Cu), molybdenum (Mo), and chlorine (Cl).
- Granular NPK fertilisers consistent distribution of micronutrients is achieved via incorporation during manufacturing.

Source: ChemAnalyst

Figure 13:West India Plant Micronutrients Market, By Type, By Value (USD Billion), 2017, 2019, 2021, 2025F, 2027F



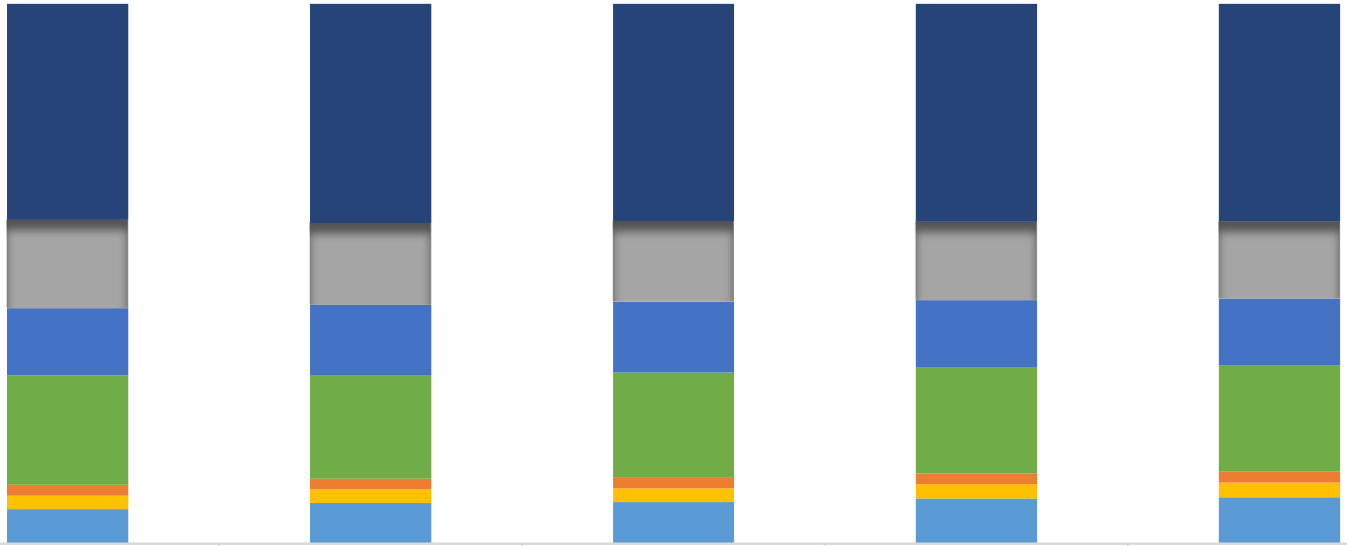
	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	0.0	0.0	0.0	0.1	0.1
Borax / Boric Acid (B)	0.0	0.0	0.0	0.0	0.0
Manganese Sulphate (Mn)	0.0	0.0	0.0	0.0	0.0
Ferrous Sulphate (Fe)	0.0	0.0	0.0	0.0	0.0
Copper Sulphate (Cu)	0.0	0.0	0.0	0.0	0.0
Magnesium Sulphate	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0
Total in USD Billion	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**

Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

Source: ChemAnalyst

West India Plant Micronutrients Market, By Volume

Figure 14: West India Plant Micronutrients Market, By Type, By Volume (KT), 2017, 2019, 2021, 2025F, 2027F



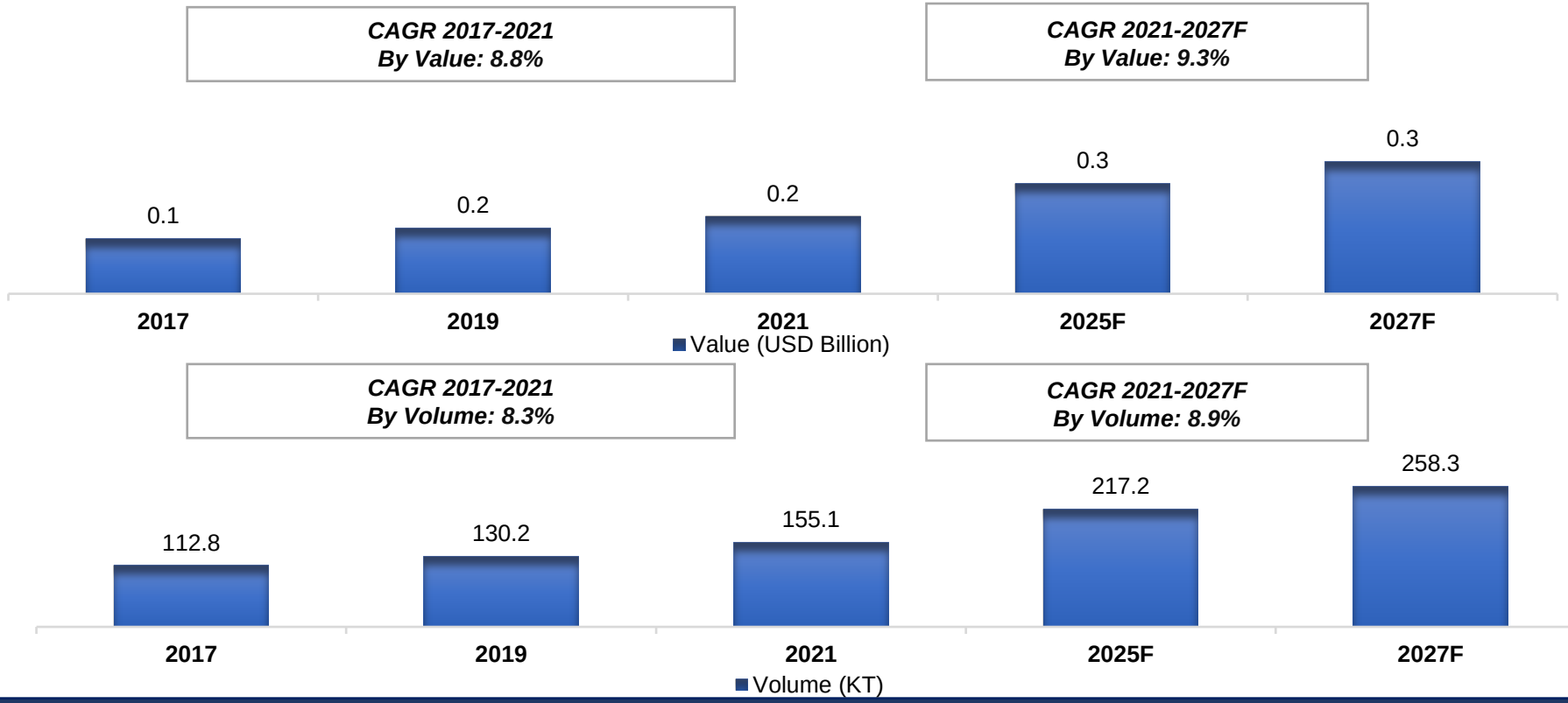
	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	25.9	30.4	35.9	50.6	60.1
Borax / Boric Acid (B)	10.6	11.4	13.3	18.2	21.4
Manganese Sulphate (Mn)	8.1	9.7	11.7	15.7	18.4
Ferrous Sulphate (Fe)	13.1	14.4	17.3	24.6	29.5
Copper Sulphate (Cu)	1.3	1.5	1.8	2.5	3.0
Magnesium Sulphate	1.6	1.9	2.3	3.3	4.0
Others	4.1	5.6	6.9	10.5	12.9
Total in KT	**65**	**75**	**89**	**125**	**149**

Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

Source: ChemAnalyst

South India Plant Micronutrients Market, By Value & Volume

Figure 15: South India Plant Micronutrients Market Size, By Value (USD Billion) & By Volume (in KT), 2017, 2019, 2021, 2025F, 2027F

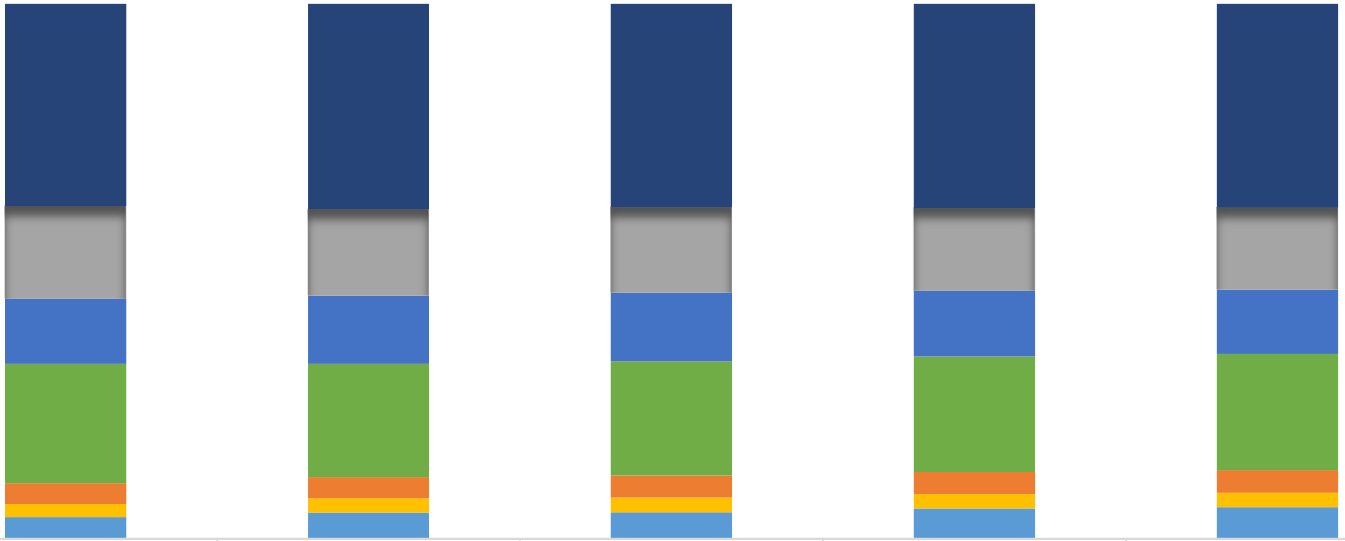


- South India Plant Micronutrients market stood at USD 0.2 billion and is expected to reach USD 0.3 billion at a CAGR of 8.9% by 2027.
- Granular NPK fertilizers can be coated with powdered micronutrients to reduce the likelihood of segregation.
- Row crops frequently receive band treatments of zinc sources along with starting fertilizers.

Source: ChemAnalyst

South India Plant Micronutrients Market, By Value

Figure 16:South India Plant Micronutrients Market, By Type, By Value (USD Billion), 2017, 2019, 2021, 2025F, 2027F



	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	0.1	0.1	0.1	0.1	0.1
Borax / Boric Acid (B)	0.0	0.0	0.0	0.0	0.0
Manganese Sulphate (Mn)	0.0	0.0	0.0	0.0	0.0
Ferrous Sulphate (Fe)	0.0	0.0	0.0	0.1	0.1
Copper Sulphate (Cu)	0.0	0.0	0.0	0.0	0.0
Magnesium Sulphate	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0

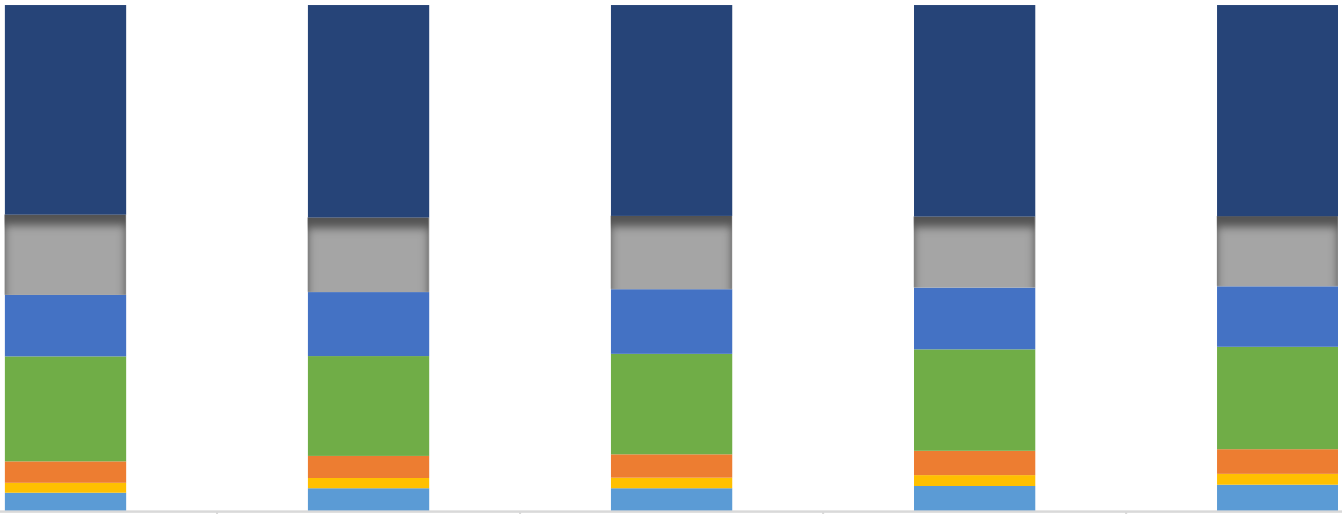
Total in USD Billion	0.1	0.1	0.1	0.2	0.2

Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

Source: ChemAnalyst

South India Plant Micronutrients Market, By Volume

Figure 17: South India Plant Micronutrients Market, By Type, By Volume (KT), 2017, 2019, 2021, 2025F, 2027F



	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	46.6	54.6	64.5	90.6	107.6
Borax / Boric Acid (B)	17.9	19.1	22.4	30.5	35.7
Manganese Sulphate (Mn)	13.7	16.5	19.8	26.5	30.9
Ferrous Sulphate (Fe)	23.4	25.6	30.7	43.6	52.2
Copper Sulphate (Cu)	4.7	5.7	7.2	10.3	12.5
Magnesium Sulphate	2.2	2.6	3.2	4.7	5.6
Others	4.2	6.1	7.2	11.1	13.8

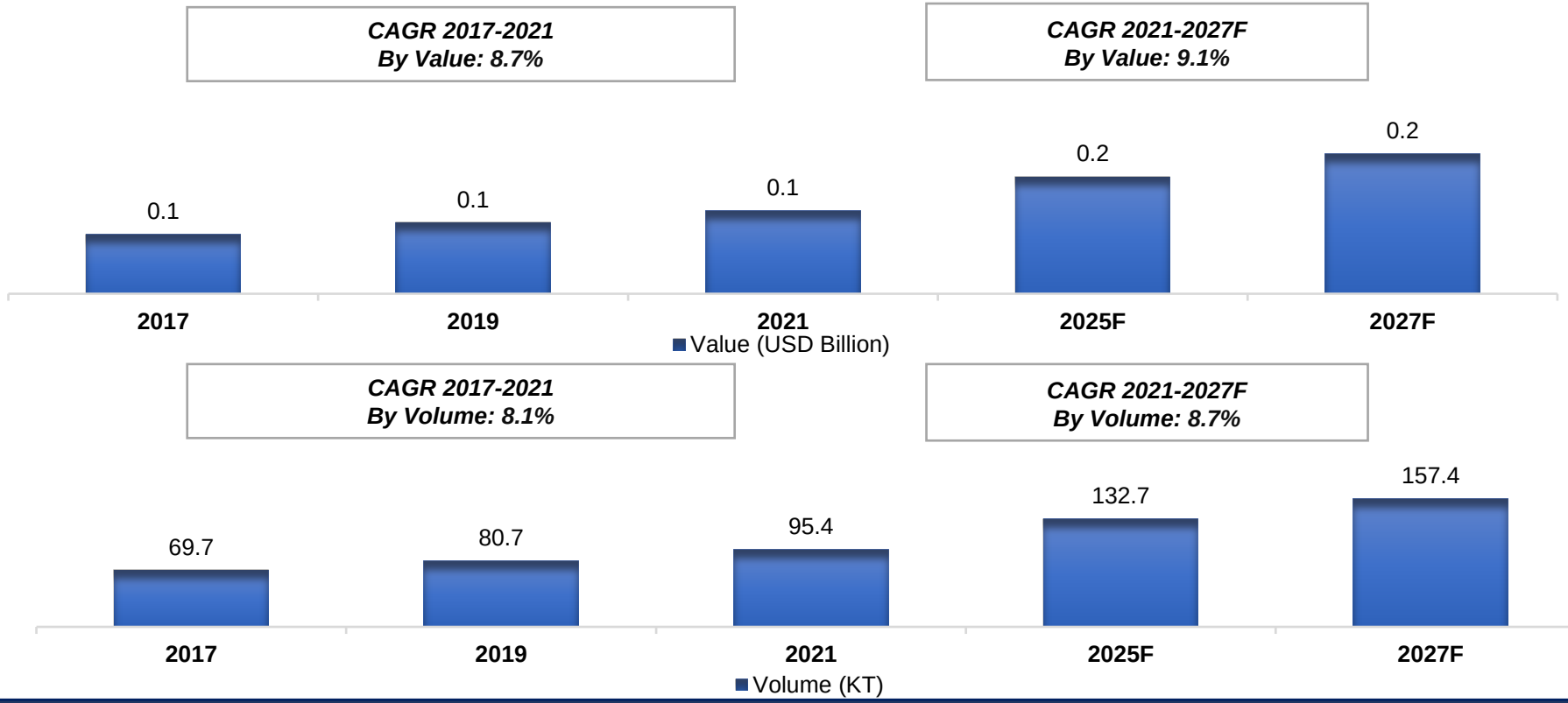
Total in KT	113	130	155	217	258

Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

Source: ChemAnalyst

East India Plant Micronutrients Market, By Value & Volume

Figure 18: East India Plant Micronutrients Market Size, By Value (USD Billion) & By Volume (in KT), 2017, 2019, 2021, 2025F, 2027F

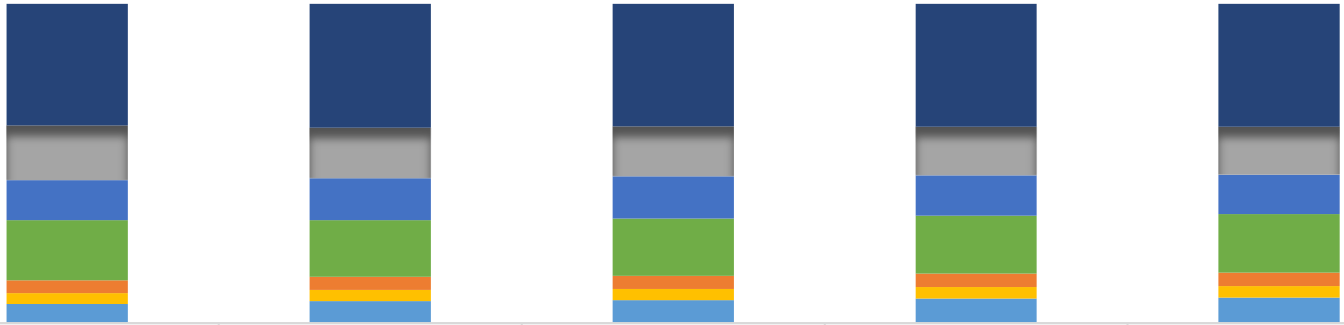


- East India Plant Micronutrients market stood at USD 0.1 billion and is expected to reach USD 0.2 billion at a CAGR of 8.7% by 2027.
- Micronutrients are crucial to the efficiency with which other nutrients are utilized and to the growth, development, and productivity of the plant.
- They can significantly affect root growth, fruit setting and grain filling, seed viability, plant vigor, and general health.

Source: ChemAnalyst

East India Plant Micronutrients Market, By Value

Figure 19: East India Plant Micronutrients Market, By Type, By Value (USD Billion), 2017, 2019, 2021, 2025F, 2027F



	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	0.0	0.0	0.0	0.1	0.1
Borax / Boric Acid (B)	0.0	0.0	0.0	0.0	0.0
Manganese Sulphate (Mn)	0.0	0.0	0.0	0.0	0.0
Ferrous Sulphate (Fe)	0.0	0.0	0.0	0.0	0.0
Copper Sulphate (Cu)	0.0	0.0	0.0	0.0	0.0
Magnesium Sulphate	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0
Total in USD Billion	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**

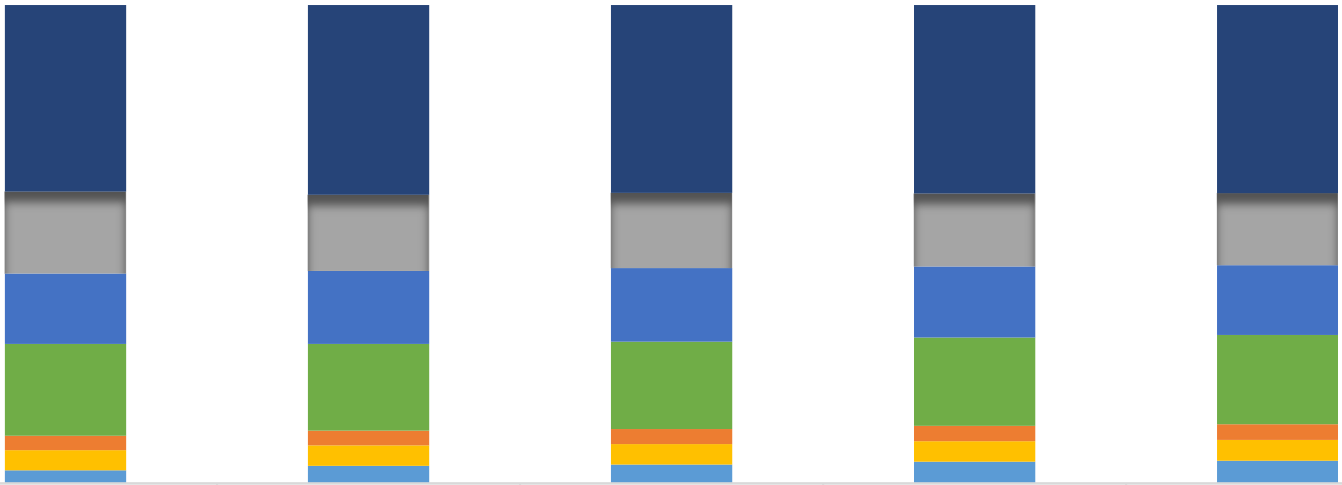
Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

- Zinc yields, spotty leaves, and stunted growth are all prevented by zinc sulphate. It can also be used as a fungicide naturally.
- Zinc is time-efficient because it treat plants and crops for two to three years after a single application.
- Boron helps control the formation of plant cell walls, which also helps control the release of minerals from storage in cells. Boron, which is predominantly found in soil, has a critical impact on plant growth.

Source: ChemAnalyst

East India Plant Micronutrients Market, By Volume

Figure 20: East India Plant Micronutrients Market, By Type, By Volume (KT), 2017, 2019, 2021, 2025F, 2027F



	2017	2019	2021	2025F	2027F
Zinc Sulphate (Zn)	27.2	32.0	37.5	52.3	62.0
Borax / Boric Acid (B)	11.9	12.9	15.0	20.3	23.7
Manganese Sulphate (Mn)	10.3	12.3	14.7	19.7	23.0
Ferrous Sulphate (Fe)	13.4	14.6	17.4	24.6	29.4
Copper Sulphate (Cu)	2.1	2.5	3.0	4.3	5.1
Magnesium Sulphate	2.9	3.4	4.1	5.7	6.8
Others	1.9	3.0	3.7	6.0	7.5
Total in KT	**70**	**81**	**95**	**133**	**157**

Others: Curpic ammonium phosphate, Molybdenum trioxide, Ammonium molybdate, Calcium chloride, Potassium chloride etc.

Source: ChemAnalyst

Disclaimer :

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CONTACT US

TechSci Research – North America
2950, Boundary Road, Burnaby,
British Columbia, Canada
Tel: +1- 646- 360-1656
E: sales@techsciresearch.com

TechSci Research – Europe
54, Oldbrook, Bretton,
Peterborough,
United Kingdom
E: sales@techsciresearch.com

TechSci Research – Asia-Pacific
B-44, Sector -57, Noida, National Capital Region, UP, India
Tel: +91-120-4523900
E: sales@techsciresearch.com

TechSci Research
Cyber City, Building No. 8C, Gurgaon,
National Capital Region, Haryana, India
Tel: +91-124-6428661
E: sales@techsciresearch.com

www.techsciresearch.com

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