```
import pandas as pd
import os

In [1]:

import pandas as pd
import os

In [2]:

all_data = pd.read_csv('complete.csv')

In [3]:

all_data.head()

Date Name of State / UT Latitude Longitude Total Confirmed cases
Death Cured/Discharged/Migrated New New New recovered
```

| | Date | Name of State / UT | Latitude | Longitude | Total Confirmed cases | Death | Cured/Discharged/Migrated | New cases | New deaths | New recovered | |
|---|----------------|-----------------------|----------|-----------|-----------------------|-------|---------------------------|--------------|---------------|------------------|--|
| 0 | 2020-01- 30 | Kerala | 10.8505 | 76.2711 | 1.0 | 0 | 0.0 | 0 | 0 | 0 | |
| 1 | 2020-01- 31 | Kerala | 10.8505 | 76.2711 | 1.0 | 0 | 0.0 | 0 | 0 | 0 | |
| 2 | 2020-02- 01 | Kerala | 10.8505 | 76.2711 | 2.0 | 0 | 0.0 | 1 | 0 | 0 | |
| 3 | 2020-02- 02 | Kerala | 10.8505 | 76.2711 | 3.0 | 0 | 0.0 | 1 | 0 | 0 | |
| 4 | 2020-02- 03 | Kerala | 10.8505 | 76.2711 | 3.0 | 0 | 0.0 | 0 | 0 | 0 | |

all_data['Month']=all_data['Date'].str[5:7]
all_data['Month']=all_data['Month'].astype('int32')

all data['Death'] = pd.to numeric(all data['Death'],errors='coerce')

Worst month for india. Which month had most number of deaths?

all data.groupby(['Month']).sum()

4904.9904 17234.7480

In [6]:

In [4]:

In [5]:

Out[6]: **Total Confirmed** Latitude Longitude Death Cured/Discharged/Migrated New cases New deaths New recovered cases Month 21.7010 152.5422 2.0 0.0 0.0 0 0 314.6645 2211.8619 86.0 0.0 0.0 2 0 0 **3** 11462.8102 38957.2059 9385.0 202.0 805.0 1303 124 **4** 21731.6576 76386.1396 414702.0 13086.0 73724.0 31696 8201 23954.3269 84281.2729 2899645.0 89793.0 1132422.0 143597 0 78659 6 23707.4536 83301.2820 9836800.0 304454.0 5383644.0 382975 0 247662 22687.9484 79646.9647 29320736.0 727421.0 18555088.0 1079034 0 722983

7267266.0

325666

0

270531

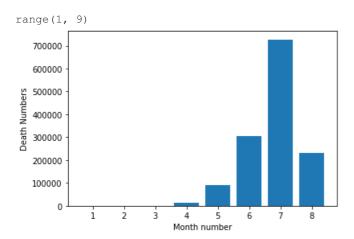
In [7]:

```
import matplotlib.pyplot as plt

months = range(1,9)
print(months)

plt.bar(months,all_data.groupby(['Month']).sum()['Death'])
plt.xticks(months)
plt.ylabel('Death Numbers')
plt.xlabel('Month number')
```

10978941.0 231442.0



Which city was most affected by corona?

all_data.groupby(['Name of State / UT']).sum()

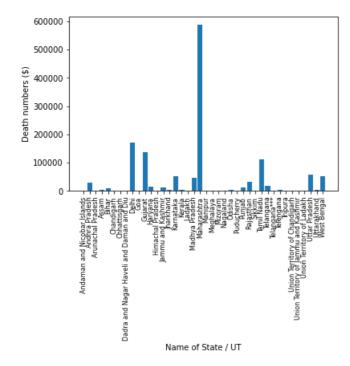


In [8]:

| | Latitude | Longitude | Total Confirmed cases | Death | Cured/Discharged/Migrated | New cases | New deaths | New recovered | Month |
|---|-----------|------------|-----------------------------|----------|---------------------------|--------------|---------------|------------------|-------|
| Name of State / UT | | | | | | | | | |
| Andaman and Nicobar Islands | 1526.2130 | 12045.6180 | 13569.0 | 64.0 | 7390.0 | 1026 | 0 | 326 | 711 |
| Andhra Pradesh | 2291.4576 | 11482.5600 | 2742054.0 | 30560.0 | 1367852.0 | 186460 | 0 | 104354 | 753 |
| Arunachal Pradesh | 3442.5960 | 11556.7916 | 32082.0 | 92.0 | 14309.0 | 1854 | 0 | 1210 | 685 |
| Assam | 3248.8744 | 11524.2624 | 1003558.0 | 2318.0 | 686672.0 | 50452 | 0 | 35892 | 693 |
| Bihar | 3362.8774 | 11431.9554 | 1277395.0 | 8487.0 | 823991.0 | 64768 | 0 | 42414 | 723 |
| Chandigarh | 4148.9955 | 10365.2190 | 42812.0 | 628.0 | 28599.0 | 1269 | 0 | 715 | 726 |
| Chhattisgarh | 2915.1819 | 11215.6557 | 256589.0 | 1307.0 | 175921.0 | 10406 | 0 | 7871 | 732 |
| Dadra and Nagar Haveli and Daman and Diu | 1796.1001 | 6498.5041 | 26209.0 | 46.0 | 15448.0 | 1365 | 0 | 960 | 548 |
| Delhi | 4420.4314 | 11873.7850 | 5766124.0 | 171177.0 | 4205359.0 | 140231 | 0 | 126116 | 783 |
| Goa | 1988.9090 | 9636.1200 | 150799.0 | 912.0 | 91072.0 | 7420 | 0 | 5287 | 711 |
| Gujarat | 3027.1832 | 9682.1664 | 2730710.0 | 137790.0 | 1824579.0 | 66667 | 0 | 49433 | 729 |
| Haryana | 4416.9376 | 11565.0112 | 1161598.0 | 15344.0 | 837562.0 | 38534 | 0 | 31960 | 777 |
| Himachal Pradesh | 4199.1480 | 10418.4090 | 80549.0 | 723.0 | 48883.0 | 2914 | 0 | 1762 | 726 |
| Jammu and Kashmir | 4560.0570 | 10337.7870 | 685423.0 | 11071.0 | 380051.0 | 22951 | 0 | 15244 | 726 |
| Jharkhand | 2927.6648 | 10574.7076 | 282717.0 | 2485.0 | 137187.0 | 14888 | 0 | 5703 | 693 |
| Karnataka | 2251.6431 | 11129.9433 | 2733901.0 | 51221.0 | 1129397.0 | 151448 | 0 | 74679 | 762 |
| Kerala | 2018.1930 | 14186.4246 | 596758.0 | 2399.0 | 309190.0 | 29150 | 0 | 17533 | 846 |
| Ladakh | 4630.4460 | 10569.5820 | 57213.0 | 127.0 | 38875.0 | 1579 | 0 | 1164 | 726 |
| Madhya Pradesh | 3101.4090 | 10618.6815 | 1291485.0 | 47441.0 | 861462.0 | 35730 | 0 | 26064 | 726 |
| Maharashtra | 2903.4705 | 11129.9433 | 15192247.0 | 587648.0 | 8145889.0 | 468267 | 0 | 305521 | 762 |
| Manipur | 3255.6084 | 12395.6316 | 84000.0 | 43.0 | 47164.0 | 3093 | 0 | 1862 | 717 |
| Meghalaya | 2826.8370 | 10141.6482 | 17980.0 | 184.0 | 5050.0 | 928 | 0 | 330 | 641 |
| Mizoram | 3034.5495 | 12174.8256 | 13335.0 | 0.0 | 6457.0 | 536 | 0 | 286 | 714 |
| Nagaland | 1804.9296 | 6524.8056 | 45006.0 | 60.0 | 17347.0 | 2495 | 0 | 685 | 448 |
| Odisha | 2933.2380 | 11913.7900 | 831767.0 | 4138.0 | 550093.0 | 39017 | 0 | 25738 | 741 |
| Puducherry | 1647.9408 | 11013.5454 | 82967.0 | 1186.0 | 46200.0 | 4432 | 0 | 2668 | 735 |
| • | | 11075.1564 | 539968.0 | 12903.0 | 357019.0 | 19855 | 0 | 12943 | 762 |
| • | | 11281.1208 | 1622247.0 | 32326.0 | 1145351.0 | 47271 | 0 | 33849 | 777 |
| | 1954.8430 | 6284.3662 | 13897.0 | 10.0 | 4993.0 | 799 | 0 | 303 | 458 |
| | | 11719.8781 | 7847083.0 | | 5204625.0 | | 0 | 214815 | 768 |
| Telangana | 923.7324 | 4029.9843 | 1644466.0 | 17538.0 | 1111473.0 | 68730 | 0 | 50110 | 345 |
| Telangana*** | 0.0000 | 0.0000 | 52466.0 | 455.0 | 40334.0 | 0 | 0 | 0 | 7 |
| _ | 1847.4648 | 8059.9686 | 103292.0 | 2981.0 | 49991.0 | 4110 | 0 | 1817 | 431 |
| · | 2825.0144 | 10854.6076 | 141618.0 | 364.0 | 87413.0 | 5724 | 0 | 3793 | 669 |
| Union Territory of Chandigarh | 61.4666 | 153.5588 | 2.0 | 0.0 | 0.0 | 0 | 0 | 0 | 6 |
| Union Territory of Jammu and Kashmir | 405.3384 | 918.9144 | 26.0 | 0.0 | 0.0 | 3 | 0 | 0 | 36 |
| Union Territory of Ladakh | 480.1944 | 1096.1048 | 58.0 | 0.0 | 0.0 | 104292 | 0 | 0 | 42 |
| Uttar Pradesh | | 12303.8224 | 2462456.0 | 56959.0 | 1474322.0 | | 0 | 60558 | 777 |
| Uttarakhand | | | 231641.0 | 2693.0 | 146167.0 | 8253 | 0 | 5233 | 744 |
| West Bengal | 2942.3104 | 11245.4400 | 1602230.0 | 50953.0 | 989262.0 | 83799 | 0 | 58962 | 671 |

```
import matplotlib.pyplot as plt
```

```
keys = [city for city, df in all_data.groupby(['Name of State / UT'])]
plt.bar(keys,all_data.groupby(['Name of State / UT']).sum()['Death'])
plt.ylabel('Death numbers ($)')
plt.xlabel('Name of State / UT')
plt.xticks(keys, rotation='vertical', size=8)
plt.show()
```



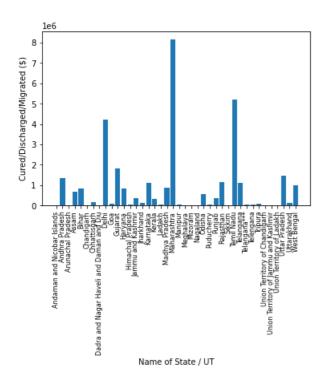
State recovery{the number of paitients cured}

In [10]:

```
import matplotlib.pyplot as plt

keys = [city for city, df in all_data.groupby(['Name of State / UT'])]

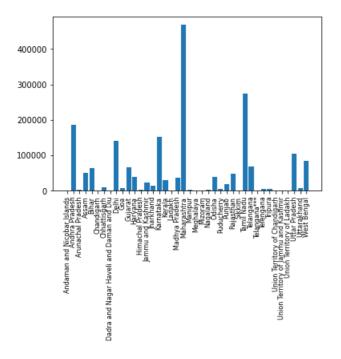
plt.bar(keys,all_data.groupby(['Name of State / UT']).sum()['Cured/Discharged/Migrated'])
plt.ylabel('Cured/Discharged/Migrated ($)')
plt.xlabel('Name of State / UT')
plt.xticks(keys, rotation='vertical', size=8)
plt.show()
```



New cases in states

plt.show()

```
new_cases = all_data.groupby('Name of State / UT')
new = new_cases.sum()['New cases']
keys = [pair for pair, df in new_cases]
plt.bar(keys, new)
plt.xticks(keys, rotation='vertical', size=8)
```



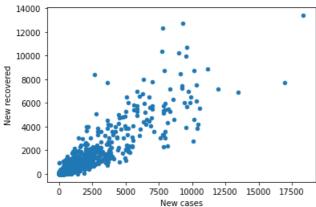
Comparing new cases to new recovered in scatter form graph

In [12]:

comp_data=all_data.groupby('New cases')['New recovered'].mean()
all_data.plot.scatter(x ='New cases', y ='New recovered')
plt.show()

In [11]:

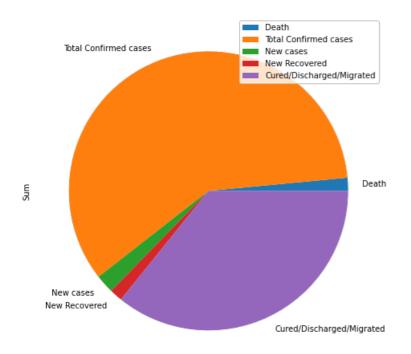
•



Pie chart distribution of all the data

In [19]:

data = pd.DataFrame({'Sum':[all_data['Death'].sum(),all_data['Total Confirmed cases'].sum(),all_data['New
index=['Death','Total Confirmed cases','New cases','New Recovered','Cured/Discharged/Migrated'])
plot = data.plot.pie(y='Sum', figsize=(8,8))



In []:

In []: