Worldwide Assesment of Livestock Production Index: Empowering Analysis through Big Data Analytics, Pivot Tables, and Dashboard System

V.B.Anarase[1], P. R. Kolhe[2], A.R. Patil[3], G.G. Kadam[4], D.R. Korade[5], S.R. Salunkhe[5]

[1]M.Tech, College of Agriculture Engineering and Technology, Dr. BSKKV, Dapoli Maharashtra, India
[2]Associate Professor (CAS), College of Agriculture Engineering and Technology,
Dr. BSKKV, Dapoli Maharashtra, India
[3]Senior Research Assistant AKMU, Dr. BSKKV, Dapoli Maharashtra, India
[4]Phd Scholar, College of Agriculture Engineering and Technology, Dr. BSKKV, Dapoli Maharashtra, India
[5]M.Tech, College of Agriculture Engineering and Technology, Dr. BSKKV, Dapoli Maharashtra, India

----

ABSTRACT
This paper introduces a novel methodology for conducting a "Worldwide Assessment of Livestock Production Index" using cutting-edge tools such as Big Data Analytics, Pivot Tables, and a Dashboard System. By integrating diverse datasets, this approach allows for a comprehensive evaluation of global livestock production. Pivot Tables facilitate dynamic data manipulation and aggregation, while the Dashboard System provides an intuitive visual representation of essential indicators. Through this innovative approach, stakeholders can make informed decisions, leveraging insights into livestock performance, resource allocation, and sustainability practices across the world. Dashboards to facilitate data-driven decision-making and foster responsible progress in the worldwide livestock production sector.
Key words: Livestock Production Index, Big Data Analytics in Agriculture, Livestcok Woorldwide Assesment.

I. INTRODUCTION
The global livestock production industry plays a pivotal role in ensuring food security, economic stability, and livelihoods around the world. As this sector becomes increasingly intricate and interconnected, the need for accurate, comprehensive, and real-time assessments has become more critical than ever. This paper introduces an innovative methodology designed to meet this demand – a "Worldwide Assessment of Livestock Production Index" powered by cutting-edge tools: Big Data Analytics, Pivot Tables, and a Dashboard System.

Traditional methods of evaluating livestock production often fall short in capturing the complexities inherent in this industry. With the advent of Big Data Analytics, we have the opportunity to harness the power of vast and diverse datasets to gain deeper insights into global livestock production trends, challenges, and opportunities(Smith et al., 2019; Kamilaris et al., 2017).

In addition to harnessing the power of Big Data Analytics and Pivot Tables, our approach incorporates a Dashboard System that offers a user-friendly visual representation of key indicators. This paper aims to showcase the transformative potential of our methodology in empowering the analysis of the global livestock production industry.(Gupta & Pooja, 2019). By amalgamating cutting-edge technologies, we not only address the challenges associated with data complexity but also provide a foundation for more sustainable and informed decisions.

II. REVIEW OF LITERATURE
The concept of utilizing data-driven approaches for evaluating complex systems has gained significant traction in recent years. In the context of the livestock production industry, where global demand continues to rise and sustainability concerns deepen, the integration of Big Data Analytics, Pivot Tables, and Dashboard Systems represents a novel and promising avenue for analysis.Literature reveals a growing emphasis on leveraging Big Data Analytics to gain insights into intricate systems. In the agriculture and livestock sectors, studies have highlighted the potential of

data-driven decision-making to enhance resource allocation, optimize yields, and address challenges in sustainable production (Smith et al., 2019; Kamilaris et al., 2017). This research builds on these foundations by proposing a comprehensive framework that merges diverse datasets to create a holistic "Worldwide Assessment of Livestock Production Index."Pivot Tables, often employed in business and data analysis, are emerging as powerful tools for navigating large and complex datasets (Gupta & Pooja, 2019). While existing literature demonstrates their application in diverse fields, such as finance and healthcare, their potential within the livestock production domain remains relatively untapped. Our methodology extends the application of Pivot Tables to facilitate dynamic data manipulation, enabling deeper insights into global livestock production trends, variations, and relationships

III. MATERIALS ANDMETHODOLOGY

A. Materials
The successful execution of the "Worldwide Assessment of Livestock Production Index" research project relies on a combination of essential materials, tools, and resources. The following list outlines the key components required to empower the analysis through Big Data Analytics, Pivot Tables, and a Dashboard System:
1. Data Sources:
2. Big Data Analytics Software:
3. Pivot Table Tools:
4. Dashboard Creation Tools:
5. Programming Skills:
6. Data Visualization
7. Statistical Analysis Techniques:
8. Domain Knowledge

9. Data Ethics and Privacy Considerations
10. Collaboration and CommunicationTools
11. Literature and Research Resources:.
12. Project Management Tools:

B. Methodology
The methodology for the "Worldwide Assessment of Livestock Production Index" project likely involves several key steps:
1. Data Collection:
2. Data Processing
3. Big Data Analytics:
4. Pivot Tables:
5. Dashboard System
6. Index Calculation
7. Continental Analysis
8. Comparative Analysis
the understanding and decision-making process.

IV. RESULTS AND DISCUSSION

A. Data Collection
Collect relevant Livestock Production Index from all over World data various sources as a Directorate of Economics and Statistics,Food and Agriculture Organization (FAO) of the united Nations ,World Bank and National agricultural departments or Ministries. , Ministry of Agriculture and Farmers Welfare, Govt. of India. A data is related to Total Livestock production from the World with Continent Wise during the year 2011-2021 from all over World

B. Data Cleaning and Preparation
Clean the collected data by removingany duplicates. Transform the data into a format suitable for pivot table analysis, such as organizing it in a tabular form with rows representing observations and columns representing variable

Table No. 01 Livestock production of different continents of world from 2011 to 2021

3. Pivot Table Creation: Import the cleaned and prepared data into a spreadsheet software that Europe, and Created a Pivot Tables in Microsoft Excel . pivot table created by selecting the Continent wise Countries and choosing the appropriate variables for rows, columns, and values.

Table No. 02 Pivot table of Australia Continent

Data Summarization: Use the pivot table to summarize the agricultural data of livestock Production   and calculating various summary statistics, such as means, sums, counts, or percentages

Data Analysis: Analyze the summarized data using pivot table functionalities, such as

filtering, sorting, or grouping. This allows for further exploration and comparison of different subsets of the data.
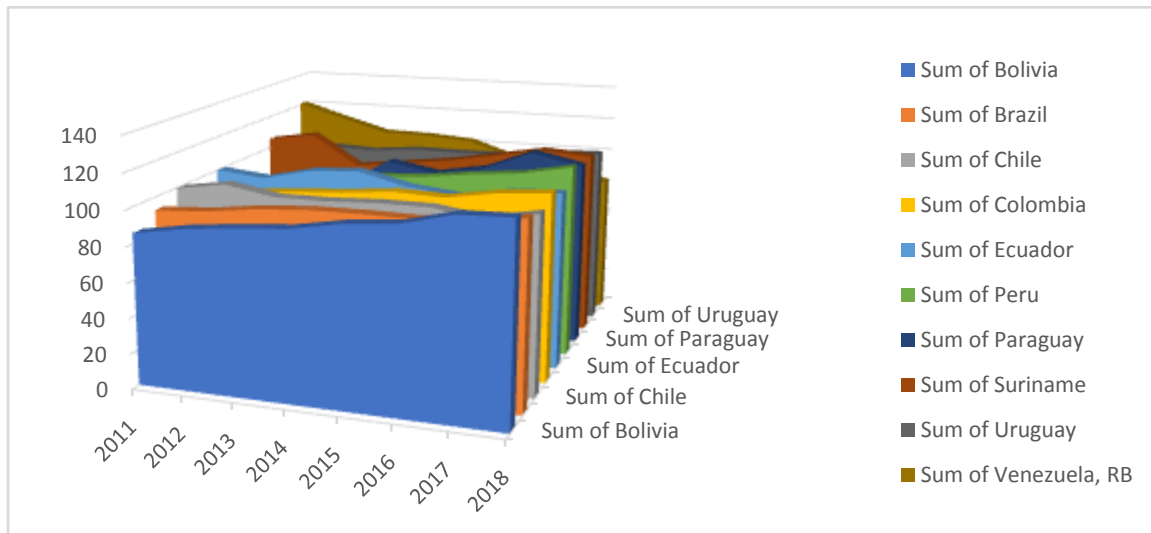

Figure 3 livestock Production of countries in south America

Data Visualization: Create visual representations of the analyzed data using pivot table tools, such as charts or graphs. This step helps to communicate the findings effectively and facilitates decision-making in agriculture.
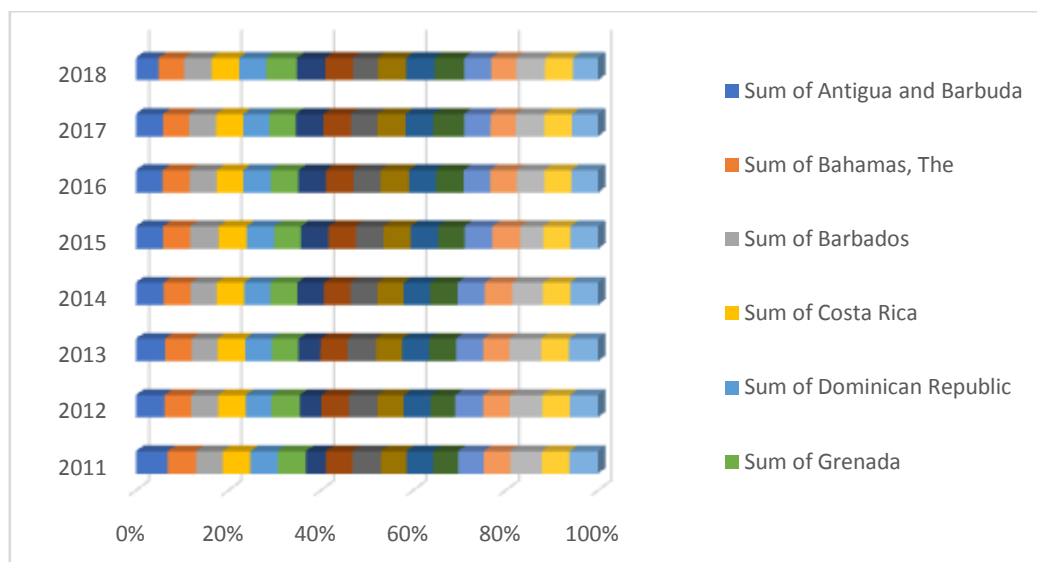

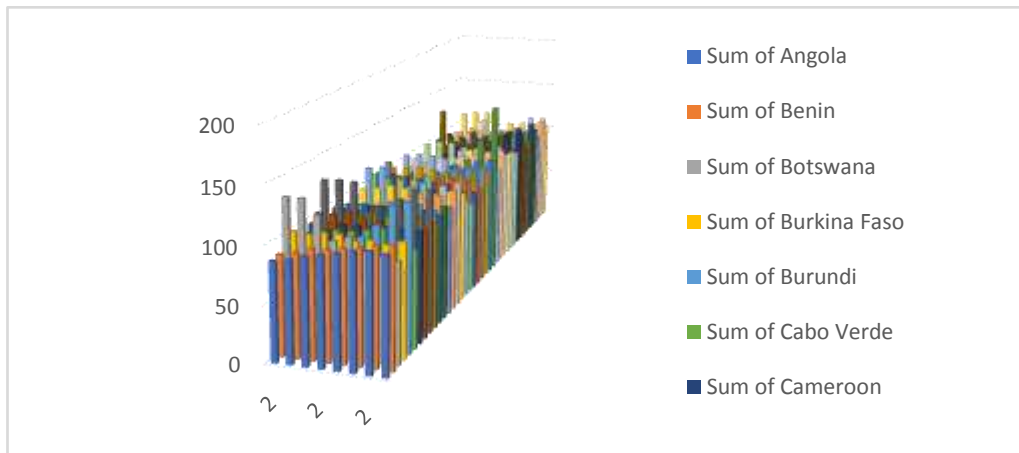Figure 1- Livestock Production of countries in North America

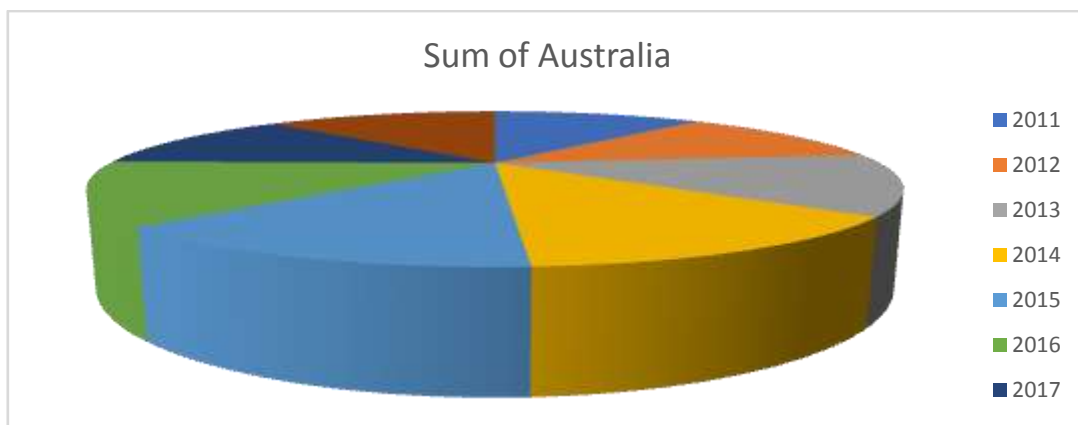Figure 2 Livestock Production of countries in Africa

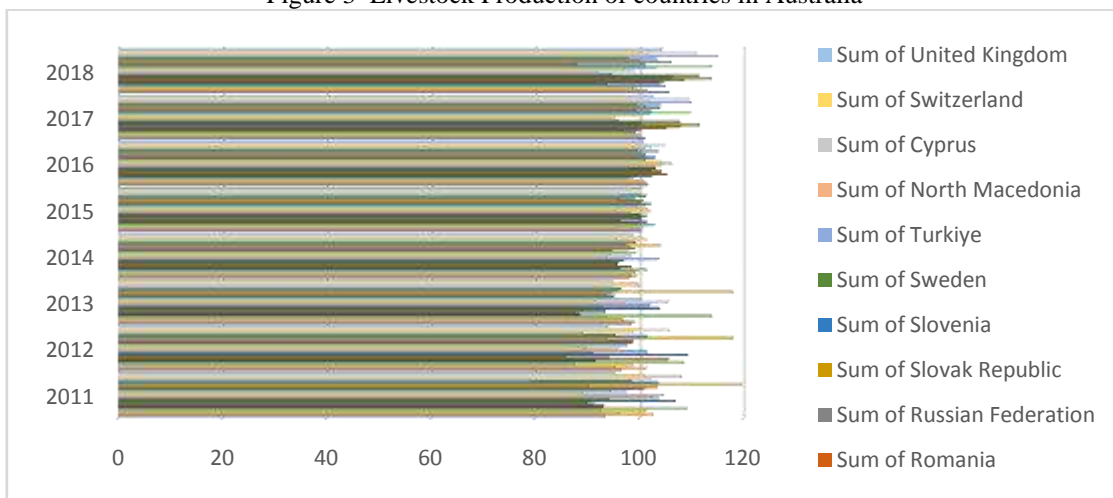Figure 3 Livestock Production of countries in Australia

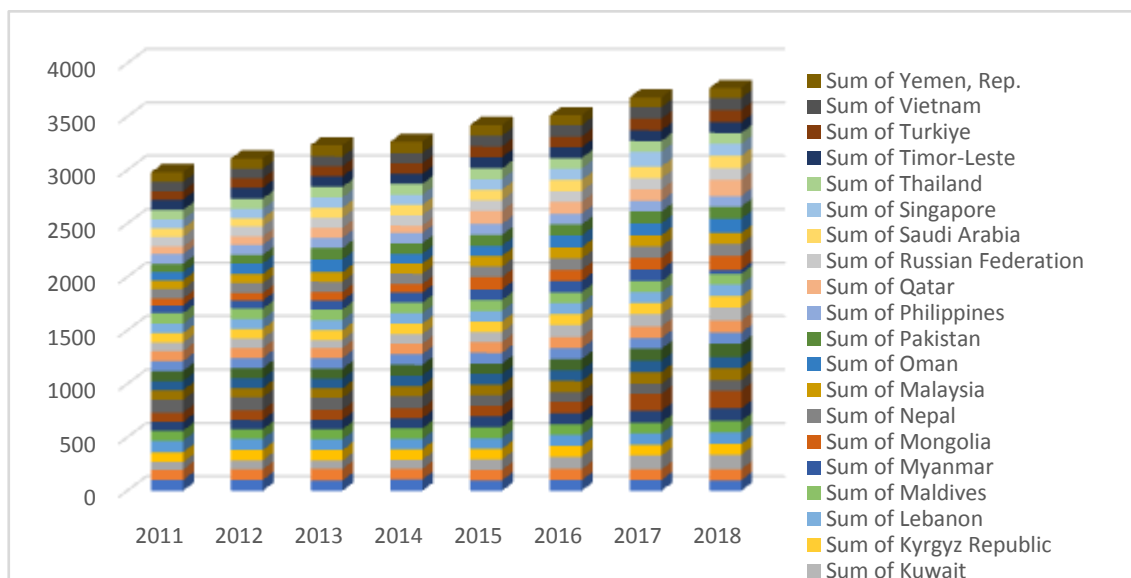Figure 4 Livestock Production in countries of Europe

Figure 5 Livestock Production in countries of Asia

Result- From the above data we can Observe that

1. Asia: Asia contains about 48 Countries and Most Favorable Agro climatic Zones in world so Total livestock Production in 2011-2021 Asia is about 26969.04 of Total Production in world.

2. North America: The United States and Canada maintained their strong livestock production, with advancements in technology and genetics leading to increased efficiency in meat and dairy production. and Contributed about 13548 production among world.

3. Europe: Europe saw various changes in livestock production, influenced by factors such as consumer preferences for organic and sustainable products, as well as concerns over environmental impact. And contributed 2325151.2

4. South America: It Contributes about 7957.69 in which the Countries like Brazil remained prominent in meat exports, particularly beef. However, issues related to deforestation and environmental sustainability became more pronounced during this period.

5. Africa: Livestock production about 31945.5 and in Africa remained largely traditional, with challenges related to infrastructure, disease control, and access to modern production methods affecting growth.

6. Australia: Australia and New Zealand continued to be significant players in livestock production, particularly in terms of meat exports. and contributes about 797717
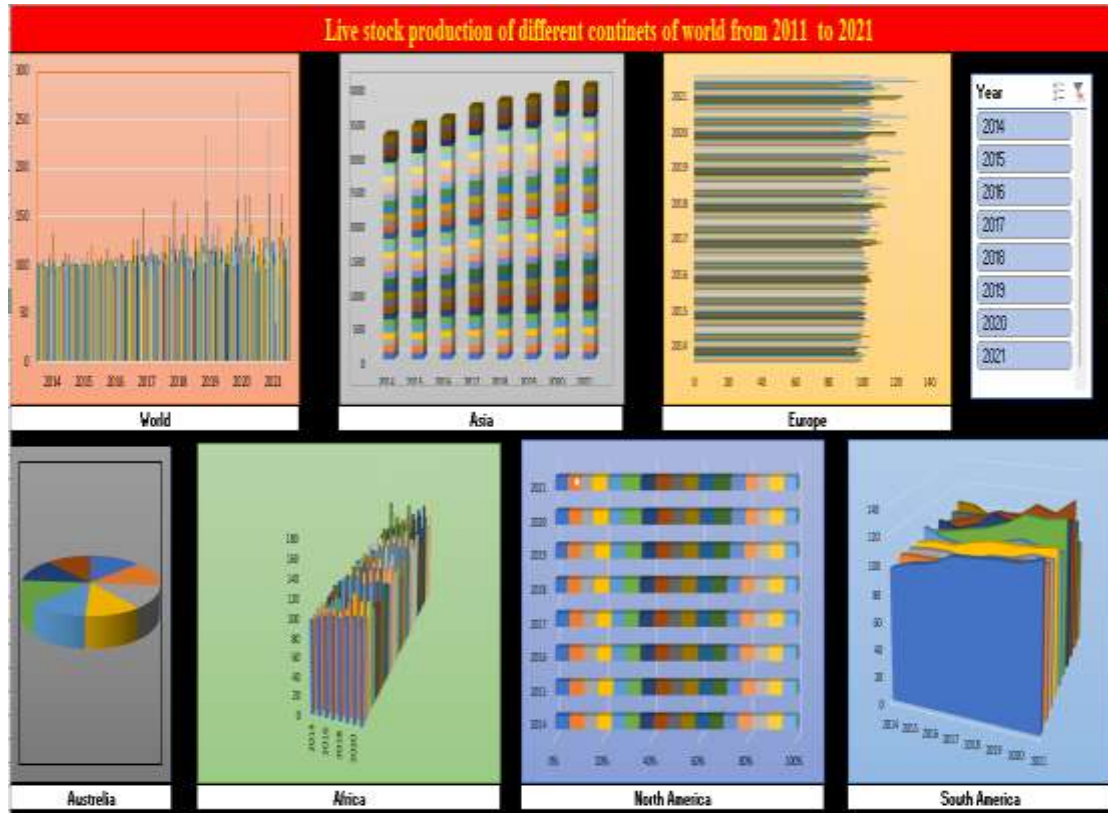
Figure 6 Dashboard for Livestock Production in world

V.   CONCLUSION

In conclusion, the research paper presents a comprehensive evaluation of the Livestock Production Index spanning the years 2011 to 2021, utilizing the transformative capabilities of big data analytics, pivot tables, and dashboard systems. Through this meticulous analysis, key patterns, trends, and fluctuations in global livestock production have been unveiled, shedding light on the industry's evolution during this crucial period. The integration of advanced analytical tools not only offers a more nuanced understanding of the factors influencing livestock production but also underscores the potential for data-driven decision-making in agricultural strategies.

REFRENCES

[1].   Smith, M. L., O'Keeffe, P. T., & Agnew, M. T. (2019).Big data in agriculture: A challenge for the   future. International Journal of Agricultural Management, 8(3-4), 59-64.
[2].   Kamilaris, A., Kartakoullis, A., & Prenafeta-Boldú, F. X. (2017). A review on the practice of big data analysis in agriculture. Computers and Electronics in Agriculture, 143, 23-37.
[3].   Gupta, A., & Pooja, S. (2019). Enhancing pivot table in excel. International Journal of Computer Applications, 975, 8887.Few, S. (2004). Dashboard confessional. Visual Business q Intelligence Newsletter.
[4].   Abbott D. 2014. Applied predictive analytics: principles and techniques for the professional data analyst. Indianapolis (IN): John Wiley & Sons.