SYNOPSIS

1. Project reference number	46S MBA 080
2. Project title	A focus on usage of artificial intelligence and its challenges and opportunities in agriculture sector in rural area.
3. Name of the college and department	GM Institution of Technology, Davangere Department of Studies in Management
4. Name of the students and guides	Student(s): Ms. Padmashree K P, Mr. Nikhil M, Ms. Priyanka M, Ms. Deepika M S Guide(s): Dr. Prashantha Kumara O, Mrs. Keerthi S
5. Keywords	• Artificial intelligence in rural area. • Manage pests • Monitor soil • Cultivate healthier crops
6. Introduction or Background	AI is an approach to make a computer, a robot, or a product to think how smart human think. AI is a study of how human brain think, learn, decide and work, when it tries to solve problems. And finally this study outputs intelligent software systems. The aim of AI is to improve computer functions which are related to human knowledge, for example, reasoning, learning, and problem-solving. Agriculture plays a vital role in India's economy. The rural households depended on agriculture as their means of livelihood. The main applications of AI in Indian agriculture appear to fall into three major categories. • Crop and soil monitoring • Predictive agricultural analytics • Supply chain efficiencies
7. Objectives	• To impart the concepts of new technologies in AI • Understand the challenges of automation in agriculture sector • Create awareness and opportunity of smart farming • To understand the role of AI & its potential in agriculture • To verify the impact of AI on the productivity & profitability of rural farms • To develop the adoption of AI in

	agriculture in rural areas, including training
	• To foster collaboration between farmers, researchers, and technology
	• To accelerate the development and deployment of AI solutions in agriculture
	• To promote awareness among policy makers and stakeholders about the potential of AI in agriculture
	• To improve the benefits of AI that inclusive leverages of agriculture sector
	• To identify the key applications of AI in agriculture, including precision farming, crop monitoring, and livestock management
8. Methodology	The methodology of research focuses on the recent technologies that can be leverages in order to provide a suitable alternative for current methods in agriculture. The study is divided into 3 sections. Section 1 deals with machine learning and precision agriculture, section 2 deals with results and conclusions, section 3 deals with conclusion and future scope.
	➢ **Focus Group**: 25 farmers at Haliyuru, Chitradurga (D) as a sample group (Random Sampling)
	➢ **Practical Demo** : Poster Presentation & Video clips of Artificial intelligence technology in agriculture is shown and creating awareness about the concept
	➢ **Questionnaire** : Will be distributed to the sample group know the feedback about adopting the artificial intelligence challenges and opportunities in agriculture sector.
	➢ **Analysis** : By taking the feedback from the sample

	group to know their level understand the usage of technology in farming ➢ **Outcome** : Guiding and Enhancing the concept of Artificial Intelligence in Agriculture sector and motivating the farmers to adopt smart farming.
9. Results and conclusions	Results : The main challenges for farmers is high investment cost of AI technology in agriculture. Finally they can ready to adopt the AI technology after transforming AI knowledge. With the requirement of huge amounts of water, farmers are looking for ways to minimize and to achieve the optimal use of the resources. AI in agriculture not only assists farmers in automation but also changes to precision cultivation for the improvement of crop output and quality for using less resources. To achieve technological advances in agriculture field with AI will be more useful application oriented. It is to help the world to solve the food production problems by the growth of population.
10. Scope for the future work	The concept of artificial intelligence in agriculture is a major human effort to eradicate the challenges. In future there is vast scope of machines through precision agriculture, crop health monitoring. Automation of machine learning with chat bots for farmers, drones, driverless tractors these are all the challenges of AI in agriculture sector in India. To improve the per capita income of the farmers in India with food securities. Advancements of technological by the government initiatives to promote precision agriculture to the farmers. The use of human efforts and machines with AI systems should support the agriculture sector are widely used. It also helps to realize agriculture automation in different harvesting methods to secure higher quality of yields with optimum use of resources.