RAICHUR JIGSAW

Results and Findings Report

2026

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Contents

Introduction

The Raichur Jigsaw is a participatory, game-based tool designed to gather future aspirations from different farmer groups in Raichur. Its primary objective is to capture the kinds of futures communities envision across specific parameters, such as preferred land use, crop choices, desired industries etc. The tool enables participants to create a shared artefact representing the future, while also fostering dialogue around their collective needs and priorities.

1. Gameplay

The game uses 20 cards that represent the Devadurga Taluk. It is played in 6 phases: land use, agriculture type, crop and livestock type, built-up land type, water systems, and technology. The game starts with the land use phase. The 20 cards are already placed to show the current land use[1] of Devadurga. The game is turn-based, and participants can change the land use of a card, for example from farmland to built-up land. This phase lasts 2—3 rounds and ends when participants agree, either by discussion or by voting.

The remaining phases follow in order, with participants building on the existing cards. In phase 2, participants choose whether an area will have crops, livestock, or both. In phase 3, they decide the specific types of crops and livestock. In phase 4, they choose the type and scale of built-up land, such as service or manufacturing industries. In phase 5, participants select the water systems, and in phase 6, they decide which technologies to use.

Once the game ends, participants take part in a debrief discussion. They talk about their preferences between the existing Devadurga and the new version they created, what they built and why, the types of industries they imagine, the barriers they face, and the kinds of markets they envision.

[1] Current land use, agricultural practice, water requirement and income, and technology was based on secondary sources, the methodology is presented in the conceptual modelling document.

Participants placing their choices during gameplay.

Participants voting for their preferences in debrief

2. Game sessions

Between January 6th to 9th we conducted 5 game sessions with different groups - rainfed farmers, landless farmers, women farmers, youth groups, and members of the water user cooperative society.

Session 1 — Rainfed farmer
Date: 6th January 2026

Total 8 participants, 6 male and 2 female. The participants were from BR Gunda and Mandalgudda. Most of them grew rice as second crop using seepage water. Other crops include pigeon pea, millets and peanuts.

Session 2- Landless farmers
Date: 7th January 2026

Total 21 participants, 11 male and 10 female. Primary occupation was agricultural labourer. They were from Mandalgudda, Sooladhgudda, Mykaldoddi, Kakaldoddi, Parapur, BR Gunda among others.

Session 3 — Women farmers
Date: 8th January 2026

Total 14 participants from Mykaldoddi, Mandalgudda, Ganadhal, Parapur and BR Gunda. Occupation varied from working on own farm to agricultural labourer, to domestic work housewife. One of the participants was also a WUCS member.

Session 4 — Youth
Date: 8th January 2026

Total 12 male participants from Galag, Ganadhal, Mukanal, Karigudda and BR Gunda villages. Occupation varied from currently studying, to driver to working with NGOs.

Session 5 — WUCS members
Date: 9th January 2026

Total 7 male participants from Maduvaygaddi and Mykaldoddi villages. Some members were directors and chiefs of the WUCS.

Tools Design Elements

The Raichur Jigsaw employs a game-based methodology to elicit people's imagination of the future. Below are the key elements of the tool design:

1. Tool logistics

No. of participants	10-15
Game duration	~2.5-3 hours. • Context setting: ~15 minutes • Game briefing: ~ 15 minutes • Game play: ~ 75 minutes • Debrief: ~ 30 minutes
No. of facilitators	3-4 • Primary facilitator: Conducting the game • Secondary facilitator: Helping during gameplay • Notetakers: Noting discussions and observations during gameplay • Additional facilitators: To help with context setting

2. Session structure

Session part	Description
Context setting	• Give an overview to the participants on objective of the session and why they are here. • Have a conversation on the current state of Raichur- type of land, predominant livelihoods etc, and get participants accustomed to the map
Game briefing	• Talk about the game structure and rules of the game

Game play	Conduct the game in 6 phases: • Phase 1 - Landuse: Participants choose between different land use types • Phase 2 - Agricultural type: Participants choose which type of agricultural land they want — crops, livestock, or a mix of both • Phase 3 - Crop & Livestock types: Participants choose which types of crops and livestock they want. Participants choose between the size of the farm — small or larger, and the types of crops based on water usage and income. • Phase 4 - Build up land type: Participants choose between the type of built up land they want — residential, manufacturing or service industries, and the size — small, medium or large. • Phase 5 - Water systems: Participants choose what types of water systems should be prevalent for each land use— ground water, surface water, or both. • Phase 6 - Technologies: Participants choose what types of technologies should be prevalent for each land use.
Debrief	Talk about different aspects of the choices participants make during the game: • Their preference for the current Raichur or the aspirational Raichur they built, and why? • Individual choices of something they would like to remove, and something they would want to add • Examples of industries they want in Raichur • Examples of markets they want in Raichur • Current barriers they face in Raichur • Prioritisation of the most important changes participants want amongst all the changes they have envisioned

3. Gameplay phases

Phase	Options within each phase
Phase 1: Land-use	• Natural systems (forest, lakes, grasslands etc) • Barren Land • Built-up land • Agricultural land
Phase 2: Agricultural Land-use	• Predominantly Crop • Mix • Predominantly Livestock • Livestock
Phase 3: Type of Crop/Live-stock	• Low-water low-income crop (e.g. mustard, green gram, red gram, bajra) • Low-water high income crop (e.g. onion, peanuts) • High-water low-income crop (e.g. paddy, sunflower) • High-water high-income crop (e.g. chilli, cotton, sugarcane) • Low-water low-income livestock (e.g. pigs, sheep) • Low-water high income livestock (e.g. goats) • High-water low-income livestock (e.g cows, buffaloes) • High-water high-income livestock (e.g. chicken, duck)
Phase 4: Type of built-up land	• Small residential (row houses) • Medium residential (small apartments) • Large residential (high rises) • Small manufacturing industry • Large manufacturing industry • Small service industry • Large Service industry

Phase 5: Water	• Groundwater • Surface water
Phase 6: Technology	• Value add technology (e.g. mills) • Efficiency Improving (e.g. sprinklers) • Labour Saving (e.g. tractors) • Smart technology (e.g. drones)
During Debrief: Markets	• Govt. physical markets • Govt. digital markets • Pvt. physical markets • Pvt. digital markets

Insights from Sessions

1. Land-use

The current land-use for Devadurga[2] and how it was decided by participants to look like for 20250 in various session is shown below.

	Current State	Rainfed farmers	Landless farmers	Women farmers	Youth	WUCS	Average
Agricultural	*80%*	*75%*	*75%*	*50%*	*55%*	*65%*	*67%*
Nature	*10%*	*15%*	*10%*	*15%*	*20%*	*20%*	*15%*
Built-up	*5%*	*10%*	*15%*	*20%*	*20%*	*10%*	*13%*
Barren	*5%*	*0%*	*0%*	*15%*	*5%*	*5%*	*5%*

[2] Assuming Devadurga to be a represtative of Raichur.

The current land-use has around 80% of the land for agricultural purposes while across sessions, the participants reduced the share of agricultural land to increase that of other. On an average participants reduced the share of agricultural land to 67%, with women and youth groups reducing the share as much as 50% and 55% respectively.

Across groups the highest increase was towards the nature and built-up area, which was allotted 15% (compared to 10% in current) and 13% (compared to 5% in current) on an average. Youth and WUCS member sessions allotted 20% of the land-use to be nature, and women and youth members allotted 20% of the land-use for built-up purposes.

Barren land on an average remained the same, with women farmers allotting 15% towards the same, youth and WUCS members kept it same, and rainfed and landless farmers removed the use altogether.
Youth and the WUCS member during the session highlighted the importance of natural areas and its crucial role in maintaining water and air quality.

2. Built-up areas

The allocation of built-up land across various groups is shown below. The current built-up areas in Devadurga were predominantly small residential.

Built-up	Current	Rainfed farmers	Landless farmers	Women farmers	Youth	WUCS	Average
Small Residential	*100%*	*0%*	*75%*	*50%*	*55%*	*65%*	*67%*
Medium Residential	*0%*	*50%*	*10%*	*15%*	*20%*	*20%*	*15%*
Large Residential	*0%*	*0%*	*15%*	*20%*	*20%*	*10%*	*13%*
Small Manufacturing	*0%*	*0%*	*0%*	*15%*	*5%*	*5%*	*5%*

Large Manufacturing	*0%*	*0%*	*33%*	*25%*	*25%*	*0%*	*17%*
Small Service	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
Large Service	*0%*	*50%*	*33%*	*50%*	*50%*	*50%*	*47%*

The share of residential land was reduced to 27% on an average. The shift across sessions was towards medium and large residential complexes. The shift away from residential led to addition of large service (39%) and manufacturing (22%, small 8% and large 14%). Across groups large service industries were preferred choice, while landless farmers, women farmers and youth also felt the need for large manufacturing industries. WUCS members decided small manufacturing industries are better suited for the region.

In terms of the type of manufacturing industries, landless farmers mentioned they would prefer to see textile and food processing industries, women farmers wanted textile, incense stick manufacturing, and agri products processing industries. Youth groups felt the need for agri related industries along with textile industry, which was also resonated in the session with WUCS member.

For service industries, landless farmers wanted universities and hospitals. Women farmers wanted clothing stores. Youth preferred clothing stores, hospital, colleges, malls, and delivery services to open up more in their region. WUCS members also felt universities and hospitals were needed, along with Agri service providers like fertilizers, etc.

3. Agricultural

- Agricultural land use

	Current	Rainfed farmers	Landless farmers	Women farmers	Youth	WUCS	Average
Crop	*88%*	*7%*	*0%*	*10%*	*27%*	*0%*	*9%*
Predominantly Crop	*0%*	*67%*	*33%*	*20%*	*36%*	*38%*	*39%*
Mix	*0%*	*27%*	*53%*	*60%*	*36%*	*31%*	*41%*
Predominantly Livestock	*0%*	*0%*	*13%*	*10%*	*0%*	*15%*	*8%*
Livestock	*13%*	*0%*	*0%*	*0%*	*0%*	*15%*	*3%*

The current land-use was majorly crop-based system, with some livestock-based farming. Participants across session preferred mix farming where share of crop and livestock is 50%-50%, followed by predominantly crop-based system with some livestock. Rainfed farmers showed greater preference for predominantly cropping system whereas landless and women farmers had preference for mix farming.

- Farm sizes

	Current	Rainfed farmers	Landless farmers	Women farmers	Youth	WUCS	Average
Crop							
Small	*79%*	*47%*	*33%*	*30%*	*45%*	*36%*	*38%*
Large	*21%*	*53%*	*67%*	*70%*	*55%*	*64%*	*62%*
Livestock							
Small	*50%*	*64%*	*33%*	*56%*	*50%*	*38%*	*48%*
Large	*50%*	*36%*	*67%*	*44%*	*50%*	*62%*	*52%*

In terms of land size, for cropping system the participants preferred a shift towards large farms from the current small farms. Rainfed farmers and youth preferred a more balance split between small and large.

For livestock system, on an average there was no clear preference between small and large farm. Rainfed farmers preferred smaller land holding for livestock, while landless farmers and WUCS member preferred larger farms.

- Crop and livestock choices

For crops, the current state had higher share of for low water low-income crops followed by high-water low-income crops, and least land for low water high income crops. The participants on an average went for a balanced mix across all 4 types of crops. Rainfed farmers specifically preferred low water crops, whereas WUCS members preferred high-water high-income crops.

	Current	Rainfed farmers	Landless farmers	Women farmers	Youth	WUCS	Average
Crop							
Low water low income	43%	33%	7%	40%	27%	18%	25%
Low water high income	7%	33%	13%	10%	18%	18%	19%
High water low income	29%	13%	47%	30%	27%	18%	27%
High water high income	21%	20%	33%	20%	27%	45%	29%
Livestock							
Low water low income	0%	14%	0%	0%	25%	8%	9%
Low water high income	0%	21%	27%	33%	38%	23%	28%
High water low income	100%	36%	67%	56%	25%	46%	46%
High water high income	0%	29%	7%	11%	13%	23%	16%

For livestock, the current situation had predominantly high-water low-income livestock, this category was still the most preferred across groups. Participants also diversified towards low water high income and high-water high-income livestock.

Youth participants highlighted that having peanut and maize is useful as it allows for fodder for livestock.

4. Water systems

For agricultural land, currently most farms get water from surface water, followed by rainfed and groundwater. On an average participants showed higher preference for having both surface

	Current	Rainfed farmers	Landless farmers	Women farmers	Youth	WUCS	Average
Agricultural							
Groundwater	19%	33%	53%	30%	0%	54%	34%
Surface water	56%	27%	33%	40%	0%	31%	26%
Both	0%	40%	13%	30%	100%	8%	38%
Rainfed	25%	0%	0%	0%	0%	8%	2%
Built-up area							
Groundwater	0%	100%	0%	50%	50%	100%	60%
Surface water	0%	0%	100%	25%	0%	0%	25%
Both	0%	0%	0%	0%	0%	0%	0%
Rainfed	100%	0%	0%	25%	50%	0%	15%

water and groundwater. Youth wanted all farms to have both surface water and groundwater. Rainfed farmers also preferred having more of farms with both the sources. WUCS members on the other hand, preferred either surface water or groundwater, and though some farms would be better suited to be rainfed.

For built-up land, at current most places are rainfed. Participants felt built-up land could depend on the ground water followed by surface water, and some can still rely on rains. Landless farmers felt that surface water is crucial for built-up areas. Women farmers highlighted that they prefer groundwater as it provides them with greater control on when to use the water, while youth highlighted that groundwater is cleaner.

5. Technology

For agricultural areas, current spread of technology is primarily towards labour saving technology, followed by value addition

	Current	Rainfed farmers	Landless farmers	Women farmers	Youth	WUCS	Average
Agricultural							
Labour saving	44%	20%	20%	30%	36%	23%	26%
Value addition	30%	33%	27%	30%	36%	15%	28%
Efficiency improvement	0%	7%	40%	10%	55%	38%	30%
Smart technology	0%	40%	33%	40%	73%	8%	39%
Built-up area							
Labour saving	0%	7%	0%	0%	5%	18%	6%
Value addition	0%	0%	6%	27%	5%	0%	7%
Efficiency improvement	0%	0%	0%	0%	0%	0%	0%
Smart technology	0%	0%	11%	27%	0%	0%	8%

technology. Farmers across groups felt smart technologies and efficiency improving technologies are useful along with the labour saving and value addition technology. Youth group saw the highest share for smart technology, which WUCS members felt efficiency improving technology is needed.

For built-up areas currently there is no technology being used. Participants felt some amount of smart technology, value addition and labour-saving technology would be needed.

6. Markets

Currently there are large government markets Raichur, Sindhudurg and Bijapur among others, which are quite far. Except WUCS members, all other groups preferred government markets but wanted it closer to their place. WUCS members felt private markets bring in more accountability for quality and incentivises farmers to focus on quality for higher price. Women farmers said there is lack of trust in private markets. When asked about whether they see the spread of online markets, rainfed and landless farmers felt the limited digital literacy would be barrier for it. Youth, women and WUCS members felt online market would also be needed, youth however were unsure about the quality of goods in online market.

7. Preferences and prioritisations

Across the 5 groups, the participants choose the reimagined Devadurga as their preferred choice. For rainfed farmers, their preference was driven by the vision they built together—one that was both future-looking and realistic. They would have wanted to increase built-up area to accommodate more industry and would have reduced natural areas for the same.

For landless farmers, the future Devadurga looked more developed, with companies and factories. At the same time there is more water availability and use of technology in agriculture. They wanted to increase barren land for its importance in grazing. For women farmers, the future Devadurga had better prospects for their

children with factories and jobs, and better healthcare facilities. Bigger house and greater use technologies also played a role. They felt they needed more industries and could have reduced barren land. For the youth, the increase in livestock in agriculture along with water availability was an improvement, along with better opportunities for jobs and use of technology.

Nature was the crucial point for their preference. They felt they could have converted barren land to a built-up area with industries. WUCS members felt that they were able to create a balanced mix of crop and livestock, which will lead to greater income, and factories add more jobs for people. More labour-saving technology will also help in tackling the high labour costs they face presently. WUCS member felt they could reduce agricultural areas to accommodate more service industries. 2 participants from the landless farmer group, did not prefer the reimagined Devadurga, however they did not provide reasons for the same.

When asked to vote for prioritization the changes they have made across short term and long term, the vote share for different groups is shown below.

Short-term changes (<5 years)		Rainfed Farmers	Landless Farmers	Women farmers	Youth	WUCS	Average
Land-use	Barren Land	*NA*	*NA*	*8%*	*NA*	*NA*	*2%*
	Small Residential	*NA*	*NA*	*NA*	*NA*	*NA*	*0%*
	Medium Residential	*NA*	*NA*	*NA*	*0%*	*NA*	*0%*
	Small Industries	*NA*	*NA*	*NA*	*8%*	*NA*	*2%*

Short-term changes (<5 years)		Rainfed Farmers	Landless Farmers	Women farmers	Youth	WUCS	Average
Agricultural Land-use	Predominantly Crop	*17%*	*20%*	*NA*	*15%*	*NA*	*10%*
	Mix	*6%*	*30%*	*8%*	*0%*	*33%*	*15%*
	Predominantly Livestock	*NA*	*10%*	*NA*	*NA*	*NA*	*2%*
	Livestock	*NA*	*NA*	*NA*	*NA*	*17%*	*3%*
Type of Crop/ Livestock	Low water low-income crop	*22%*	*NA*	*NA*	*NA*	*NA*	*4%*
	Low water high income crop	*NA*	*0%*	*17%*	*0%*	*0%*	*3%*
	High-water low-income crop	*NA*	*0%*	*NA*	*NA*	*NA*	*0%*
	High-water high-income crop	*NA*	*0%*	*NA*	*NA*	*17%*	*3%*
	Low water low-income livestock	*6%*	*NA*	*NA*	*0%*	*0%*	*1%*
	Low water high income livestock	*11%*	*0%*	*17%*	*8%*	*0%*	*7%*
	High-water low-income livestock	*6%*	*0%*	*25%*	*0%*	*0%*	*6%*
	High-water high-income livestock	*6%*	*0%*	*NA*	*NA*	*0%*	*1%*
Water	Groundwater	*6%*	*NA*	*8%*	*8%*	*17%*	*8%*
Markets	Govt.	*0%*	*20%*	*0%*	*46%*	*NA*	*13%*

Technology	Value add technology	6%	NA	17%	NA	NA	4%
	Efficiency Improving	11%	20%	0%	15%	17%	13%
	Labour Saving	6%	NA	NA	NA	NA	1%

For short-term changes, shifting towards mix farming, along with ensuring government markets are brought near, and greater spread of effeciency technology was prioritised. Within agriculture low-water high-income livestock and high-water low-income livestock were prioritised across the groups.

Long-term changes (10-20 years)		Rainfed Farmers	Landless Farmers	Women farmers	Youth	WUCS	Average
Land-use	Nature	8%	NA	20%	17%	13%	14%
	Large Industry	NA	27%	30%	17%	NA	25%
	Large Service	25%	27%	10%	8%	63%	27%
	Large Residential	NA	45%	10%	NA	NA	28%
Water	Surface water	33%	0%	NA	58%	NA	31%
Markets	Private	NA	NA	NA	0%	13%	6%
	Online	NA	NA	10%	NA	NA	10%
Technology	Smart	33%	0%	20%	0%	13%	13%

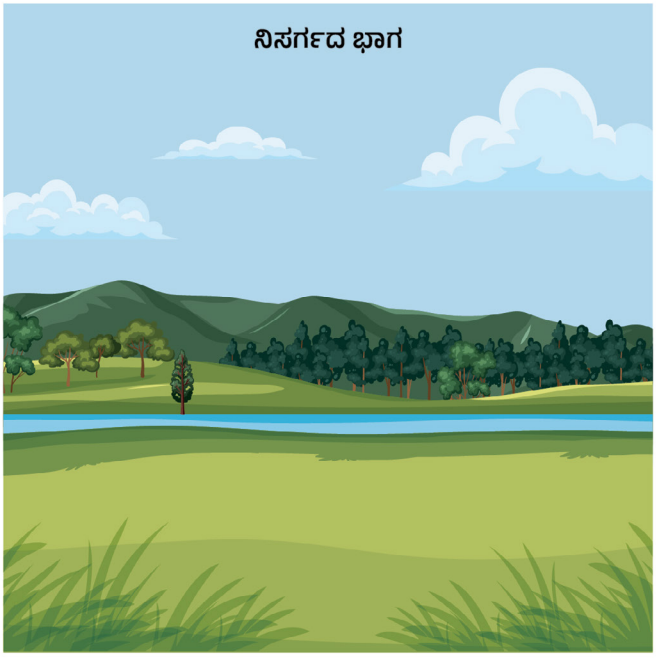
For long term changes, ensuring increased spread of surface water, followed by large residential, manufacturing and service industry was prioritised.

When asked about what are the barriers that hinder them from moving towards the proposed changes, and what support is required, investment was considered a crucial barrier, which needs to be addressed from the government. WUCS members also highlighted the risks associated with investments, and they were unsure of whether there will be returns on the same. At the farmer level, lack of adequate market price was highlighted as a reason for limited growth in income. Weather related uncertainty was also highlighted by WUCS members further adding to the risk. Youth, women, and WUCS member felt that lot of stakeholders need to come together and at present there is limited support. Women, youth, and WUCS members also felt they needed training to play a better role. WUCS members felt that with FPOs their bargaining power has increased, but they still do not know adequately on compliance, GST and other norms.

Annexure

1. Game Assets

Phase 1: Land use



Phase 2: Agricultural Type

Phase 3: Crop & Livestock Type

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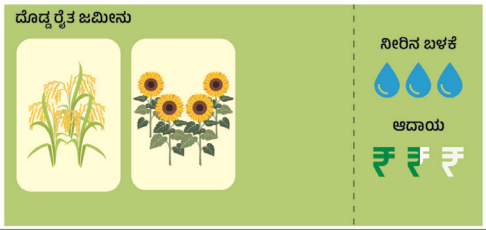
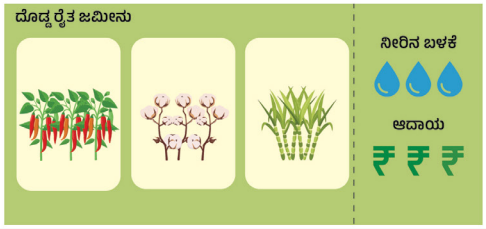
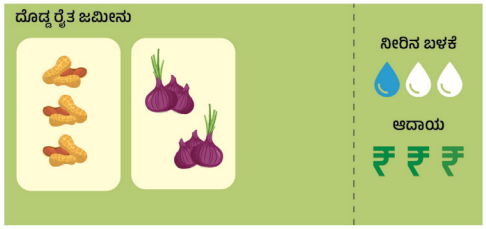
ಕಡಿಮೆ ನೀರು ಕಡಿಮೆ ಆದಾಯ		
ಕಡಿಮೆ ನೀರು ಹೆಚ್ಚಿನ ಆದಾಯ		
ಹೆಚ್ಚಿನ ನೀರು ಕಡಿಮೆ ಆದಾಯ		
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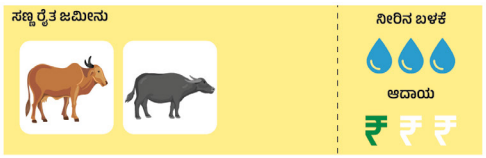
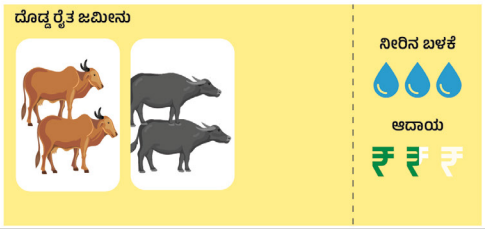
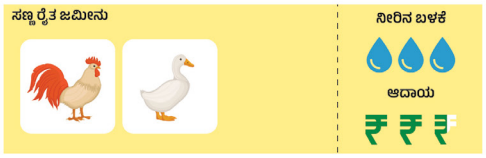
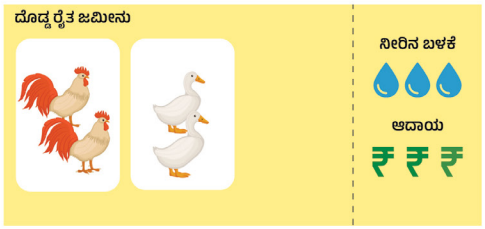
ಕಡಿಮೆ ನೀರು ಕಡಿಮೆ ಆದಾಯ		
ಕಡಿಮೆ ನೀರು ಹೆಚ್ಚಿನ ಆದಾಯ		
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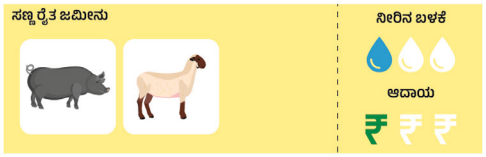
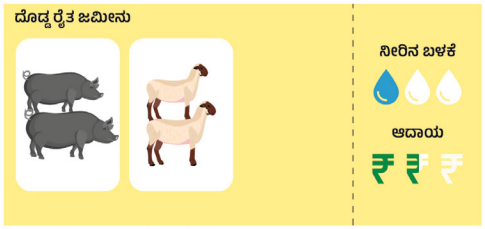
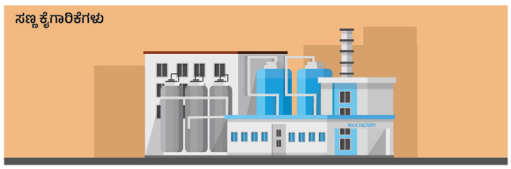
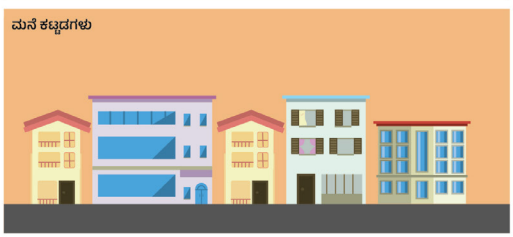
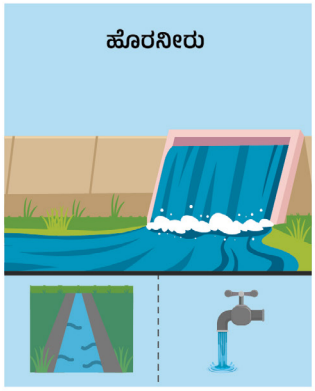
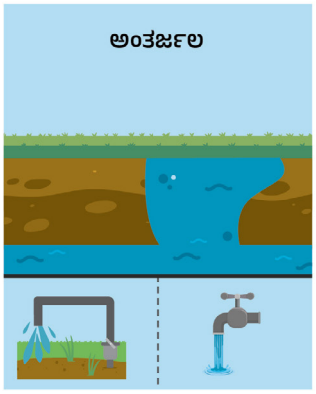
ಹೆಚ್ಚಿನ ನೀರು ಹೆಚ್ಚಿನ ಆದಾಯ		

Phase 4: Built up land type

	ಸಣ್ಣ	ದೊಡ್ಡ
ಕೈಗಾರಿಕೆಗಳು		
ಸೇವಾ ಉದ್ಯಮ		
ಕಟ್ಟಡಗಳು	 	

Phase 5: Water systems





Phase 6: Technology