

Integrated Water Resources Management for Ayodhya (U.P.)

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Abstract— *Water technique and the board need to reflect the from an overall perspective interconnected nature of hydrological resources, and IWRM is the recognized choice as opposed to the area by-region, sequential organization style that has administered the past. The reason of IWRM is that the different businesses of water resources are related. For example, high water framework demands and dirtied drainage streams from cultivating mean less freshwater for drinking or present-day use; degraded city and current wastewater dirties rivers and subverts conditions; in the event that water should be left in a river to get fisheries and conditions, less can be diverted to foster harvests. After study & analysis of IWRM, our study area is basically based on how to approach IWRM in Ayodhya to resolve the problem of shortage of water, present water availability and requirement, forecast population and demand of water in Ayodhya.*

Indexed Terms-- *Water resources, IWRM, Water Demand, Irrigation*

I. INTRODUCTION

Water is an indispensable driver of money related and social new development while it moreover has a fundamental limit in staying aware of the genuineness of the customary living space. In any case water is only one of different urgent ordinary resources and essential water issues are not considered in withdrawal.

Bosses, whether or not in the public power or private regions, need to make problematic decisions on water task. Progressively more they need to disseminate decreasing supplies between reliably extending

demands. Drivers, for instance, fragment and climatic changes further augmentation the load on water resources. The customary isolated strategy is as of now not functional and a more thorough method for managing water the board is key.

This is the thinking for the Integrated Water Resources Management (IWRM) move toward that has now been recognized generally as the way forward for capable, fair-minded and acceptable new development and the leaders of the world's confined water resources and for adjusting to conflicting solicitations.

IWRM is a definite thought which was created from the on-the-ground understanding of trained professionals. Yet many bits of the thought have been around for quite a while - without a doubt since the central overall water gathering in Mar del Plata in 1977 - it was only after Agenda 21 and the World Summit on Sustainable Development in 1992 in Rio that the thought was made the object of wide discussions concerning what it infers eventually. The Global Water Partnership's significance of IWRM is comprehensively recognized. It states: 'IWRM is a cycle which progresses the co-ordinated improvement and the chiefs of water, land and related resources, to enhance the resultant financial and social government help with a fair way without compromising the acceptability of fundamental conditions.

Fig.1 Integrated Water Resources management



[Sources: International Decade of action “Water for life”2005-15]

The Need for an Integrated Approach

Water methodology and the board need to reflect the from an overall perspective interconnected nature of hydrological resources, and IWRM is the recognized choice as opposed to the area by-region, progressive organization style that has governed the past. The reason of IWRM is that the different businesses of water resources are related. For example, high water framework demands and dirtied leakage streams from cultivating mean less freshwater for drinking or current use; degraded city and present-day wastewater dirties streams and subverts conditions; on the off chance that water should be left in a stream to get fisheries and conditions, less can be diverted to foster yields.

The IWRM norms took on at the International Conference on Water and the Environment in Dublin, Ireland, in 1992, are known as the Dublin Principles:

1. New water is a restricted and powerless resource, central to help life, headway and the environment
2. Water improvement and the board should be established on a participatory approach, including clients, coordinators and methodology makers at all levels
3. Women have a central effect in the game plan, the leaders and safeguarding of water
4. Water has a monetary worth in all its fighting uses and should be seen as a money related nice.

These norms were accordingly summarized by Global Water Partnership (GWP):

Integrated water resources the leaders relies upon the unbiased and useful organization and practical use of water and sees that water is an important piece of the climate, a trademark resource, and a social and money related perfect, whose sum and quality choose its utilization.



Fig.2 The need for an Integrated approach

[Sources: Global water partnership]

This complements the meaning of a consolidated technique similarly as evidently articulating the association between water resources the chiefs and the "3Es" of practical development: monetary capability in water use, social worth, and regular and ecological legitimacy.

An IRWM approach bases on three sections:

- An engaging environment of fitting methodologies, strategies and authorization for practical water resources headway and the board,
- Putting set up the institutional design through which to consolidate the methodologies, strategies and sanctioning, and
- Setting up the organization instruments required by these establishments to deal with their business.

IWRM should be viewed as a collaboration rather a solitary shot procedure - one that is long stretch and forward-moving anyway iterative instead of straight in nature.

There isn't one right administrative model. The art of IWRM lies in picking, changing, and applying the right mix of gadgets for a given situation. Choosing accomplishments and time-frames is fundamental for

progress. Execution could occur on a step-by-step premise, similar to topographical augmentation and the gathering and timing of changes. Degree, timing, and content of measures can be changed by experience. In encouraging a framework and construction for change, see that the course of progress is most likely not going to be fast.



Fig.3 The IWRM Planning Cycle
[Sources: Global water partnership]

For technique making and organizing, applying a consolidated philosophy requires that: water progression and the board considers the various businesses of water and the extent of people's water needs;

- Partners are given a voice in water organizing and the board, with explicit respect for getting the relationship of women and needy individuals;
- Approaches and needs think about water resources ideas, including the two-way association between macroeconomic plans and water headway, the board, and use;
- Water-related decisions made at adjacent and bowl levels are according to, or conceivably don't battle with, the achievement of greater public objections; and
- Water orchestrating and systems are combined into greater social, money related, and environmental goals.

Benefits from IWRM

A. Environmental benefits

Organic frameworks can benefit from applying an organized method for managing water the chiefs by giving normal prerequisites a voice in the water task exchange.

IWRM can help the region by uncovering issues among various clients of the necessities of organic frameworks and the benefits these make for them. Consistently these are underrated and not merged into orchestrating and dynamic.

The climate approach gives one more construction to IWRM that focuses on a structure method for managing water the leaders: - getting upper catchments (for instance reforestation, extraordinary land development, soil deterioration control), pollution control (for instance point source decline, non-point source spurring powers, groundwater affirmation) and biological streams. It gives a choice rather than a sub-region contention perspective that can join accomplices in cultivating a typical view and joint action.

B. Agricultural benefits

- As the single greatest client of water and the major non-point source polluter of surface and groundwater resources, agribusiness has a defenseless picture. Taken nearby the low worth included provincial creation, this as frequently as conceivable that, especially under conditions of water deficiency, water is diverted from cultivating to other water businesses. Regardless, capricious abatement in water task for cultivating could have wide financial and social results. With IWRM, coordinators are asked to look past the area monetary matters and survey the consequences of water the board decisions on business, the environment and social worth.
- By bringing all regions and all accomplices into the powerful cycle, IWRM can reflect the combined "regard" of water to society by and large in irksome decisions on water dispersions. This could infer that the responsibility of food creation to prosperity, poverty decline and sexual direction esteem, for example, could repeal extreme monetary assessments of speeds of return on each cubic meter of water. Additionally, IWRM can bring into the circumstance the reuse capacity of cultivating return streams for various regions and

the augmentation for country reuse of metropolitan and present day wastewaters.

- IWRM calls for integrated organizing so that water, land and various resources are utilized in a viable manner. For the green region IWRM attempts to grow water proficiency (for instance more yield per drop) inside the goals constrained by the monetary, social and regular setting of a particular district or country.
- C. Water supply and sterilization benefits
- Most importantly, suitably applied IWRM would incite the water security of the world's poor and unserved being ensured. The execution of IWRM based procedures ought to mean extended security of local water supplies, similarly as reduced costs of treatment as pollution is taken care of even more suitably.
 - Perceiving the honors of people, and particularly women and destitute individuals, to a good measure of water resources for both local and family based helpful purposes, drives inescapably to the need to ensure authentic depiction of these social events on the bodies that make water resource task decisions.
 - The middle around consolidated organization and capable use should be a move up to the area to push for reusing, reuse and waste diminishing. High pollution charges maintained by unyielding necessity have incited incredible updates in present day water-use efficiencies in the industrialized countries, with benefits for local water supplies and the environment.
 - Past sanitization structures consistently based on killing the waste issue from the spaces of human occupation, in this way keeping the human districts great and strong, but basically superseding the waste issue, with often regrettable natural effects elsewhere. Show of IWRM will chip away at the opportunity for show of sensible sanitization courses of action that expect to restrict waste delivering wellsprings of information, and lessening of waste yields, and to deal with disinfection issues as close as possible to where they occur.
 - At a practical area level, further created coordination of water resource the leaders could provoke extraordinarily decreased costs of giving

local water organizations, if for 1 Cap-Net. IWRM plans, Training module 14 model more water framework plans were arranged with a local water part explicitly involved all along.

Advantages

- Simple to separate water by direct siphoning
- Water can be treated after use and put off into a stream
- Dams and supplies can be used for hydroelectric power
- Repositories can be used for redirection

Disadvantages

- Water will require treatment
- Occasional
- Development of exorbitant and normally hurting dams, may set off quakes
- Flooding of land for provisions
- Repositories will eventually silt up
- Requires sufficient precipitation and colossal stream catchment.

II. LITERATURE REVIEW

Asit K. Biswas [1] conversation about the idea of IWRM looks appealing, a more profound examination brings out numerous issues, both in idea and execution, particularly for meso-to full scale projects. The meaning of IWRM keeps on being shapeless, and there is no settlement on key issues like what perspectives ought to be incorporated, how, by whom, or regardless of whether such mix from a more extensive perspective is conceivable. The purposes behind the ongoing prevalence of the idea are broke down, and it is contended that in reality, the idea will be extremely hard to be made functional.

Muhammad Mizanur Rahaman et.al [2] examines the development of the idea of Integrated Water Resources Management (IWRM) at worldwide gatherings throughout the course of recent many years and addresses the possibilities of IWRM in settling the flow water emergency. It additionally distinguishes seven significant difficulties to executing IWRM. Our streams and springs are the life-blood of the planet.

Hal E. Cardwell et.al [3] contends that more incorporated, cooperative ways to deal with water

assets the executives will bring about more maintainable water assets advancement since they all the more totally reflect cultural qualities and logical information, and spotlight them on tackling complex administration issues in an all the more thoroughly fulfilling way. Since future advancement depends to some extent on normal comprehension of the idea, we return to various meanings of IWRM and propose a straightforward applied system for thought. In inspecting IWRM in the public water assets the board area of the U.S., a public objective for centering IWRM is arising in the idea of feasible turn of events. This idea has establishes in U.S. natural regulation disregarded thirty years prior, however has been much influenced by idea improvement and support in the United Nations and The World Bank.

Clive Lipchin et.al [4] researches water security at each level: homegrown, public, and global. While its center is the Middle East - and understandably, it is militarily unpredictable, climatologically shaky, and working with a yearly, provincial water shortage - contextual analyses explained here are being rehashed all over the planet. Consequently, gives examination that others all over the planet will doubtlessly see as supportive. Also, practically each of the sections notice the effect environmental change will have on water the executives and security. In such manner, as well, examination of the effect of environmental change on water security will make this book helpful to professionals in different areas of the planet.

H.H.G. Savenije , P. Van der Zaag [5] After the portraying the authentic improvements that drove the advancement of Integrated Water Resources Management (IWRM), the paper characterizes this significant idea. It in this way manages the prickly issue of water security as well as water struggle, after which the significant issues over which hitherto no agreement has been accomplished are momentarily investigated. The paper finishes up with an investigation of the job of the IAHS International Commission on Water Resources Systems (ICWRS) in advancing IWRM .

David Ezechiel Rosenberg [6] investigation is applied independently at three spatial scales in the Hashemite Kingdom of Jordan — for individual private clients, the water framework serving 2.2 million occupants in

the capital Amman, and the whole realm containing Amman and 11 other governorates. Jordan is a best ten water-unfortunate nation and has a proceeding with yearly populace development of 2% to 3%. Results can assist with illuminating current and future lack survival methods.

Laura E. Higa Eda et al. [7] zeroed in on with an essential area for water assets in Peru. This paper shows how incorporated water assets the executives approach ought to be created and carried out in Peru, the significance of an all encompassing composed system, and how ecological advances and informatics are required for resolving natural issues in the Peruvian amphibian environment. Information of Water supply to the populace by inclines is taken from Instituto Nacional de Estadística e Informática INEI. Perú: anuario de estadísticas ambientales 2009.

Itay Fischhendler et al. [8] blocks institutional change of the water the executives framework and proposes that incorporated water assets the board makes strategy and the executives congruity that may simply be amiable to steady changes. Interestingly, genuine transformation that requires reversibility and the capacity to change the executives techniques because of new data or checking of explicit administration results. In this paper, we talk about how IWRM, which was laid out in Israel over quite a while back, has affected water strategy and institutional change in Israel over the long run. In doing as such, we feature how the incorporated design of the Israeli water area before change made an obstacle to smooth transformation and change.

Christian Jolk et.al [9] centers around the turn of events and use of Planning and Decision Support Tools to work on the IWRM in three distinct locales of Vietnam: the upper Dong Nai waterway bowl (Province Lam Dong), the Red River sub bowl (Province Nam Dinh) and the Mekong sub basin. The Planning and Decision Support Tools introduced in this article take into account an examination and representation of the water the board circumstance in the task region. The outcomes will additionally be deciphered by utilizing the Ranking Tool. This empowers the client to determine measures for WMUs with need for activity. Potential measures incorporate for example checking ideas, development of water

disinfection and supply offices or enhancement of rural cycles.

Per Stalnacke and et.al [10] in spite of expansions in familiarity with incorporated water assets the board (IWRM) and various investigations that attention on the idea there actually exist not many top to bottom logical examinations on the reasoning behind the standards and ideas.

Derick R. Du Toit et.al [11] challenges presented by contrasts in importance and understanding among partners are analyzed against the need to connect with partners in water assets the executives. We conscious on the possibilities of utilizing mental model approaches inside the setting of the essential administration system for water the board portrayed. Point of this paper is to distinguish how the utilization of mental models approaches could further develop IWRM and furthermore where they may not be valuable. The paper is organized in order to initially present the particular setting of IWRM in South Africa, then analyze the likely utilization of a psychological models way to deal with IWRM.

KV Raju et.al [12] examine about how to carry out the new methodology for coordinated water assets the executives in Karnataka. Objective of this creator is developments in innovation and supporting modalities, for example, miniature water system and public private association, will likewise be executed in at least one pilot sub bowls to show the potential for replication in extra bowls in Karnataka. Afterward, this approach would be useful to refine and increase in different pieces of India.

Sneh Gangwar et.al [13] endeavors to centers around water asset of India. A scene of dispersion, patterns of value change, use, abuse and the board methodologies. There is a requirement for appropriate preparation, improvement and the board of the best resources of the nation, viz. water and land assets for increasing the expectations of living of the large numbers of individuals, especially in the rustic regions. Information is taken from different kind of exploration paper, web and so forth.

Geert teisman et.al [14] plans to turn into a significant wellspring of information on administration of complicated water frameworks, and a motivation for

all experts in the water area to further develop the administration limit in the space in which they work. To accomplish this two-sided desire we need to zero in on real and dire hypothetical issues and bring them further by application and elaboration in the areas of water.

N. Zarrineh et.al [15] to foster a comprehensive audit on biological and natural effects and political and financial ramifications of Lake Urmia bowl dry spell because of anthropogenic drivers, for example, expanded water interest because of populace development and ecological tensions (for example environment changeability and environmental change) inside the setting of current institutional set-up. A definitive goal of this audit paper is to make and foster a suggested rundown of measures that could work on the administration of the Lake Urmia Basin.

Fahad Khan Khadim et.al [16] conversation about influences in South West Coastal Zone of Bangladesh and Fact-Finding on Tidal River Management (TRM). The review has been created thinking about a twofold concentration, first and foremost underscoring on the positive IWRM influences in the review region and afterward laying out certain realities on TRM. Ecological effects of IWRM have been concentrated on us-ing Remote Sensing (RS) innovation, Geographic In-line System (GIS) devices and Digital Elevation Models (DEMs) as well as measurable investigation of flood levels in the review region.

Daniel Karthe et.al [17] investigation on consequences of the German-Mongolian exploration project Integrated Water Resources Management in Central Asia: Model Region Mongolia ("IWRM MoMo"). With regards to the venture, observing gives the logical premise to (1) the recognizable proof, prioritization and assessment of mediation measures and (2) the induction of an all encompassing idea for reasonable water the board which is adjusted to the outer circumstances found in the locale.

Olli Varis et.al [18] is first to present IWRM and the discussions around that idea and afterward to investigate its vertical and even aspects. The upward aspect is investigated by inserting IWRM into a nonexclusive water administration setting. The level aspect is investigated by thinking about existing

advancements in a covering - and correspondingly cross-cutting - area: wellbeing. This examination centers around the level aspect, since it is less researched in the water area than the upward one. With this investigation, we desire to arrange the discussion around IWRM and to give an exhibit of clever thoughts and perspectives into it.

Iskandar Abdullaev et.al [19] is to introduce reasonable outcomes on further developing water the executives in Central Asia through the use of better information the board apparatuses at the functional level across assorted institutional settings, for example trans limit, watershed levels in the area.

I.C. Overton et.al [20] studies to exhibit a scope of waterway bowl the executives draws near. The models give experiences into arranging and execution procedures for natural streams in a scope of climatic, monetary, institutional and strategy conditions. We examine the Rhône River in France and the Thames River in England as instances of working on ecological condition to meet the European Water Framework Directive (WFD). Customary ways to deal with water the board have zeroed in on bowl efficiency.

Diana Suhardiman et.al [21] uncovers the need to distinguish potential section focuses to increase privately established water the board approaches towards the advancement of settled institutional set-ups in water assets the executives.

Mehta, L. et.al [22] the contextual investigations uncover that IWRM might have brought about an inappropriate approach center around overseeing water as opposed to growing unfortunate ladies' and men's admittance to water. The recently made institutional plans would in general concentrate the power and control of the State and strong clients over water and neglected to address generally established disparities.

Kees van Leeuwen , Rosa Sjerps [23] IWRM of Istanbul affirms the finishes of the World Economic Forum that water supply is one of the main three worldwide dangers for both the effect and probability. System has been applied for almost 40 urban areas, and the outcomes for Istanbul are talked about in the

more extensive setting of ongoing drives on water administration and shrewd urban areas by the European Commission. The current review gives a standard evaluation of incorporated water assets the board (IWRM) of Istanbul as contextual investigation of the Mediterranean region. It is important for an activity on water administration by the City Blueprint Action Group with regards to European Innovation Partnership on Water of the European Commission (European Commission 2014).

Nina Hagemann and Sabrina Kirschke [24] must be a more grounded center around the examinations of existing and valuable administration methodologies as well as of conditions for administration changes; administration investigations ought to allude to various kinds of issues, rather than just zeroing in on single cases and conceptual investigations; and answers should be founded on a more intricate act of between and trans disciplinary exploration.

A. Piresa, et.al [25] a pilot review served to test and support the exploration technique prior to completing the full execution. The discoveries of the review show that 24 markers follow most of the manageability rules; pointers are bi-layered (implying that they agree with two maintainability models); are one-layered markers (satisfying only one of the four supportability standards) and one pointer don't full fill any of the maintainability measures.

Salam Abbas et.al [26] a concentrate on a perplexing stream catchment - the Dee River catchment in the United Kingdom utilizing a coupled land surface model (SWAT) and groundwater model (MODFLOW) to work on the exhibitions of the two models in any case utilized independently, consequently serving the IWRM objectives of upgrading conjunctive utilization of surface and groundwater.

Maija Bertule et.al [27] places the marker observing inside the setting of different drives to quantify water administration. Besides, it dissects encounters of utilization of the Sustainable Development Goals (SDG) marker 6.5.1 system to assess the qualities and shortcomings of the pointer and presents the vital discoveries of the 2017/2018 worldwide gauge appraisal of IWRM execution.

C. P. Kumar et.al [28] conversation about water assets issues and the executives in India. Incorporated water the executives is crucial for neediness decrease, natural food, and supportable monetary turn of events. Taking into account the quick expansion in populace, urbanization, and industrialization, the interest for water for meeting different prerequisites is consistently expanding. In this manner, we are confronting various difficulties in the water area, which incorporate diminishing per capita water accessibility, the decrease in groundwater table in numerous areas, and saltwater interruption in seaside springs.

Florence Metz et.al [29] address this observational riddle with an inside and out examination of the plan of Swiss flood risk the board approaches over the long haul. To this end, we review the assessment of 146 flood specialists on the significance of ten strategy plan pointers in three flood-inclined locales in Switzerland. Flood risk the board specialists characteristic specific significance to strategy plans described by combination, an adequate spending plan for strategy execution, and coercive instruments and endorses.

Masoumeh Zeinali et.al [30] examine about Interaction of hydro-socio-innovation information pointers in incorporated water assets the board utilizing delicate registering strategies. In this review, nations of the world with diminishing inexhaustible water per capita were analyzed during the period 2005-2017. To work on the exhibition of model preparation, the information utilized in the ongoing review included hydro-socio-innovation information pointers, for every landmass and the world. In this examination, it was shown that utilizing delicate processing methods, the communication between hydro-socio-innovation information pointers and inexhaustible water per capita can be displayed.

Interference of Literature Review:

Break down and investigation of above diary/research paper we observed that clarification of Integrated Water assets the executives is one answer for some issues connected with water like as drinking water, well re-energize, horticultural field, natural difficulties and so forth. Some creator or specialist examined

worldwide, public and local issues of connected with water assets in given the above writing survey.

Research Gap:

Given the above scientist or diary paper zeroed in on overall water issues while we are study and examination territorial issues of water assets like as lack of drinking water, water level, farming area and so on. Our review region is fundamentally founded on the most proficient method to move toward IWRM in Ayodhya to determine the issue of lack of water, counteraction from flood and how to make best agribusiness area.

Objective:

Objectives are given the following;

- To analyses the present water availability and requirement
- To forecast the future population and demand of water of Ayodhya
- To analyze the water requirement in Ayodhya

Study Area:

Why we are selecting Ayodhya City And Rural Area of Ayodhya ?

Because Ayodhya is religious place and under construction of Ram mandir temple so in future vast gathering of people in Ayodhya and it is create of shortage of drinking water. Rural area of Ayodhya faced the problem of flood and agricultural field. So our study & analysis is based on how to resolve the problem via integrated water resources management.

III. PROBLEM STATEMENT

As we have heard, the water issues are various and plans are sincere. In any case, those courses of action need to consider the essential social, monetary and political powers included and require changes that are hard to reach.

Expecting to familiarize an IWRM approach with viable organization and progression of water resources could take a couple of designs. The most great clarification is to address need water issues affecting society and this could achieve focused movement consistently progressing towards IWRM. Even more

for the most part, the affirmation that water issues are characteristic of a more significant frustration of water the leaders structures prompts long stretch orchestrating with an arrangement for more sensible usage of water resources. The distinctive proof of water as a basic component in poverty decline and conservative improvement in like manner drives public expecting water.

The audit-based system characteristically experiences issues related to objectivity, straightforwardness and likeness of the results. These, by and large, relate to the points of view on the individual (or individuals) affirming and introducing the possible results, yet notwithstanding the interpretations of the genuine requests.

It is by and large expected disregarded that blend is similarly a political cycle (Saravanan et al., 2009) and we truly need to ask who is doing the integrating and whose interests are being addressed and the way in which tested interests should be made due (Merrey et al., 2005). These political and political economy points of view are habitually neglected considering the way that blend undeniably draws on a managing reasoning of Habermasian useful sensibility where different people hope to show up at a commonplace plan and pleasing exercises by arrangement instead of key movement rigidly fixing their own targets (Saravanan et al., 2009). As the particular nation models include there are routinely political economy concerns, relating to how to zero in on segments and check splits the difference among different water uses and regions, yet these watch out for not go to the front. In like manner with other notable procedures being created, for instance, Elinor Ostrom's arrangement guidelines (1990) and flexible organization (Pahl-Wostl et al., 2010) questions concerning power, legislative issues and contestation are habitually skirted. The IWRM complement on the three E's - worth, efficiency and environmental sensibility - moreover seems to commend divided benefit circumstances and whitewash possible splits the difference and conflicts among these three goals and the ensuing battles that ordinarily result between an extent of water clients, pioneers similarly as neighborhood people (see for example, van Koppen et al., this Issue).

IV. DISCUSSION

Discussions on an extensive strategy for supervising water resources began as of now during the 1950s preparing to the 1977 United Nations Water Conference. The progression of IWRM was particularly recommended in the last affirmation of the ministers at the International Conference on Water and the Environment in 1992 (implied the Dublin norms). This thought means to propel changes in practices which are seen as vital for additional created water resource the leaders. In the ongoing definition, IWRM settles upon three standards that together go probably as the general design:

1. Social worth: ensuring identical access for all clients (particularly limited and more awful client social occasions) to a good sum and nature of water vital to help human flourishing.
2. Economic capability: conveying the greatest benefit to the best number of clients possible with the available money related and water resources.
3. Ecological practicality: requiring that maritime natural frameworks are perceived as clients and that good assignment is made to help their normal working.

In 2002, the improvement of IWRM was discussed at the World Summit on Sustainable Development held in Johannesburg, which intended to invigorate the execution of IWRM at an overall level.

IWRM practices depend after setting; at the useful level, the test is to make an understanding of the agreed guidelines into significant movement.

Further created stream bowl the board is supposed to oversee conflicts rising up out of the usage of a restricted resource under extending pressure. Well-working stream bowls give fundamental natural framework organizations to people, growing the water, food and energy security expected for an intense economy. Stream bowl the chiefs ought to help these organizations by tending to the prerequisites of the two people and nature for water. We have seen how an accentuation on convenience targets in the Rhône, Thames, Colorado and Murray bowls have all incited biological decline as water framework, energy creation and human use have dominated. Climate

organizations, including organizations, for instance, natural framework cycles and limits, insinuated as supporting organizations (MEA 2005), legacy regards and resources for future clinical developments, are by and large pieces of normal insurance and are maintained under the EA. Biodiversity is a component of an organic framework that develops its fortitude and adaptability to change and is accordingly a fundamental piece of the EA. The EA is the fundamental construction for the Convention on Biological Diversity (1995) and is upheld by climate organizations. Streams choose the stream natural framework and are critical for climate organizations. Better models are required for anticipating aftereffects of natural framework organizations from stream the chiefs decisions. There is a necessity for additional created assessment on the linkages between stream, nature, organic framework organizations and accomplice results. Bowl the leaders procedures that improve standard effectiveness approaches support the fundamental occupation of climate organizations, including supporting cycles and natural assortment. Stream the chiefs can be a critical gadget in directing antagonistic results of ecological change on both stream systems and the organizations and economies that depend upon them.

A dream is an explanation that portrays a future state. It is arranged to a given time span, typically around 20 years and ought not be extremely lengthy. The issue is that a dream might be excessively dubious and impossible. Preferably they ought to be outlined with regards to the public vision for improvement.

The vision can either take the condition of on by and large of rule for the destiny of water resources in the country, or be made in more detail joining:

- Why water the board ought to be gotten to the next level;
- Where you really want water the board to be in, say, 15-20 years;
- How the chiefs and organizations are to be moved along;
- Whenever unequivocal targets will be reached.

The vision starts with the improvement of typical point of view on the future and may integrate described shared goals and targets, and makes a translation of these into methodologies, establishment and practice.

The vision can be applied at a regional (between country) level, a typical course level (internal stream bowl), a public level or a local level (sub catchment). The extent of procedure instruments can consistently be puzzling.

- Strategy announcements by people from the boss are relaxed at this point may be a veritable obligation by an official.
- Formal course of action verbalizations are normally created and may be formal papers embraced by government.
- Practice, what truly occurs, may differentiate from the previously mentioned and could be the acknowledged approach.

An imperative support behind course of action is to build liability of accomplices. In this manner a formed system document, formally or nonchalantly embraced by government, is a huge indication of government commitment to water region change. Arrangements are more unmistakable than a fantasy and on the off chance that the thoughts of IWRM are not clearly realized it may not be appropriate to encourage a water system and this may be a development to be embraced later as an element of plan execution.

The keys to IWRM/EA accomplishment are enhancing orchestrating with pilot exercises to show results; using learning-by-doing to improve and change water resources the board exercises, instruments and methodologies; and making partnerships of beneficiaries, water allies and trailblazers to catalyze change in associations and execute IWRM plans (IUCN 2011). IWRM is more productive when people act to handle issues directly appropriate to their lives and livelihoods, as opposed to when the consideration is on cross-sectoral institutional coordination (Moriarty et al. 2004). The example of the MDB shows the wide neighborhood of the various leveled MDB Plan. This decentralized philosophy has been implied as polycentric stream bowl the leaders and relies upon with everything taken into account agreed neighborhood and approaches (Svensen et al. 2005, Lankford and Hepworth 2010) and is progressed inside the EA. Stakeholderled the chiefs coming about due to conflict or crisis can regularly gather sureness and helps accomplices with grasping physical and political genuine variables. This

is in opposition to constrained stock drove direct IWRM approaches (Mollinga et al. 2007) overpowered by particular courses of action, inclined toward data, and the doubt that all that challenges can be crushed through rule, exhibiting and control moves close. The last choice methodology was taken in the MDB and was confronted. Consistently these approaches search for overhauls through truly resourcing, more coherent data and information and genuinely organizing (Hosterman et al. 2012). More resources and data may be required, but the overall approach develops direct, really overpowered plans (Kundzewicz et al. 2007), with escort danger of neighborhood. Establishments ought to offer assistance and give even minded direction, instead of basically completing public methodology. Putting urging inside a learning approach helps formal associations with learning the people who live in the bowl and avoids the notion that vitally better science can provoke better decisions (Sarewitz 2004, Meyer 2012).

The Pangani context oriented examination shows the benefits of including the EA approach, in that it:

- Utilized getting ready studios, training visits and accomplice social occasions to redesign experience with streams for natural framework upkeep and IWRM, and to embrace rational dynamic cutoff building
- Fostered an item group to facilitate stream, estuary, social and monetary consequences of circumstances into a broad picture of projected change
- Created stream science and climate social money related response twists using general norms of stream associations adjusted elsewhere and neighborhood data, on the plan that these future refined through persistent checking. The response twists were housed in a uniquely assembled Decision Support System, allowing flexibility in the number and nature of circumstances explored.

Examples of natural framework-based change in stream bowls, similar to the Rhône and Colorado, show critical capabilities between interests in typical and planned system. Planned establishment like dams, supplies and water framework streams brings receptiveness down to floods, water lack and food

shortcoming. Such plans use various leveled strategies, and capacities to adjust to uncertain future events depend upon the prosperity edges in the arrangement and movement. Typical structure, similar to ordinary floodplain accumulating, is a system based elective that may be seriously convincing, more affordable and bring extra natural framework benefits. It could require new progressions and funding, but may be the inclined toward choice coming about as a result of shortcoming assessment got together with limit building and improvement of organization that is multi-accomplish, versatile and adaptable.

V. METHODOLOGY

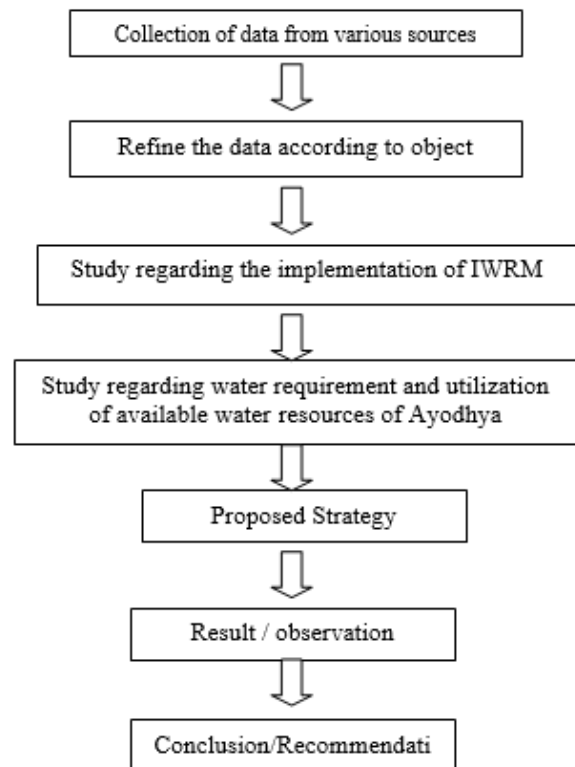


Fig.4 Flow chart diagram of methodology

- Data Collection
To achieved our aiml, data collection is primary stage of the project. Put up the data according to our objective:
- To study & analysis of IWRM from many national & international journal paper.
- To improve the adequate water requirement and prevention from flood and drought, firstly we

should have data of current population and resources of water.

- Data taken from Ayodhya Development authority (ADA) for focused area.
- Data of population obtain from 2011 census.
- For geographical data collection from various journal/research paper, government data like as “Jal –Vikas”.

(4.1) Implementation of IWRM

Practically, IWRM approaches incorporate applying data from various trains similarly as the pieces of information from grouped accomplices to devise and execute useful, fair and sensible solutions for water and headway issues. In light of everything, IWRM is a finished, participatory organizing and execution gadget for administering and making water resources to such an extent that changes social and money related necessities, and that ensures the protection of conditions for individuals later on. Moreover, thinking about contributing the achievement of Sustainable Development targets (SDGs),[5] IWRM has been progressing into more commonsense strategy as it considers the Nexus approach, which is a cross-sectoral water resource the chiefs. The Nexus approach relies upon the affirmation that "water, energy and food are solidly associated through overall and close by water, carbon and energy cycles or chains."

Water's different purposes — for cultivating, for strong conditions, for people and occupations — demands worked with movement. An IWRM approach is along these lines cross-sectoral, importance to be an open, versatile cooperation, and offering all accomplices that would be valuable to set procedure and make sound, changed decisions considering express water challenges defied.

An IWRM approach bases on three stray pieces and targets avoiding an isolated system of water resources the leaders by pondering the going with viewpoints:

1. Enabling Environment: A genuine enabling environment is basic to both assurance the opportunities and assets, things being what they are (individuals similarly as open and confidential region affiliations and associations), and moreover

to guarantee public assets like normal natural characteristics.

2. Roles of Institutions: Institutional headway is fundamental to the arrangement and execution of IWRM approaches and activities. Powerlessness to facilitate with liabilities, authority and limits concerning movement are generally critical reasons for issue with doing IWRM.
3. Management Instruments: The organization instruments for IWRM are the gadgets and techniques that engage and assist bosses with making normal and informed choices between elective exercises.

A part of the cross-cutting circumstances that are in like manner basic to ponder while doing IWRM are:

- Political will and obligation
- Limit improvement
- Satisfactory hypothesis, financial strength and pragmatic cost recovery
- Observing and evaluation

IWRM should be viewed as a cycle as opposed to a solitary shot procedure - one that is long stretch and iterative instead of straight in nature. As an association which hopes to move water headway and the board systems from their at this point unrealistic designs, IWRM has no good starting points or endings.

Additionally, there isn't one right administrative model. The specialty of IWRM lies in picking, changing and applying the right mix of these instruments for a given situation.

Additionally, there isn't one right administrative model. The specialty of IWRM lies in picking, changing and applying the right mix of these instruments for a given situation.

The yield from this period of the organizing cycle is a water resources the board framework with clear goals. The approach should go past the exercises expected to deal with force issues or achieve transient objections and set up an indisputable long stretch framework to achieve attainable organization and improvement of water resources. The IWRM plan will then, be used to operationalise the procedure beginning with one organizing period then onto the following.

Seeing that integrated water resources the chiefs gives guidelines to the practical organization of water resources the request arises how to close what measures to set up. What should be changed in the way we manage water and what are the consequences of the proposed changes? These are troublesome requests to address and it could without a doubt require various earlier years complete water changes are executed and are working sufficiently.

On a basic level, a broad procedure that attempts to work on water's obligation to commonsense progression in all cases should make a more imperative difference. Eventually, starting with significant issues can yield improved results. Being unreasonably excited toward the start — disregarding the political, social and cutoff gives that ought to be handled for convincing execution — can achieve a strategy that looks unprecedented on paper yet doesn't change over into potential exercises. Experience suggests that huge starting changes are not essential to catalyzing change — introductory advances that can without a doubt be completed are regularly sufficient to begin the most well-known approach to moving towards more practical water headway and the board. Despite the basic technique methodology shouldn't target anything not by and large organizing changes that will propel more key and worked with dynamic on an on-going reason. In this manner the points to be viewed as isn't exactly 'what' ought to be changed at this point also 'when' should the movements happen. Rather than endeavoring to finish all that at the same time the exercises ought to be arranged more than a seriously drawn-out period of time.

This module will address

- The degree of the strategy decisions
- The design for making system decisions, and
- The IWRM change districts.

The Scope of the Strategy Decision:

Goals drive the decision of strategy. Nearby the endlessly gives perceived in the situation assessment, plans are proposed. There may be fluctuating degrees of understanding around these proposed game plans yet they reflect the cravings of the accomplices guided. These suggestions ought to be introduced to a phase

where the targets behind the IWRM plan are doubtlessly communicated and agreed.

An arrangement (or a dream) is habitually the early phase being an affirmation of plan. The basic difference in making an understanding of the course of action to procedure a framework is that it hopes to meet explicit goals through unequivocal theories. In a strategy the endeavor resources available and decisions to show up at the targets should be overviewed and a program imagined for these resources for be spent in a fair but financially capable manner. Accomplices could have much more grounded sees they should communicate with respect to the trade off decisions which ought to be made in arranging a framework, yet it is fundamentally more surprising for thorough accomplice gatherings to happen on approaches than it is on game plans and authorization.

The fundamental targets portray how the vision might be achieved. Each goal ought to cover an offered (issue or opportunity), address the essential changes expected to gain the headway to reasonable development, be conveyed in a way that is adequately wide to consolidate all pieces of the issue and assurance 'buy in' by each appropriate accomplice, yet furthermore enough express to allow quantifiable concentrations to be described. The framework ought to cover sufficient targets to address the standard monetary, social and biological concerns of acceptable water resources the board, yet barely any enough to be reachable and justifiable.

A couple of goals may be agreed as needs, to be concurred targets (see underneath) and completed inside a brief time frame range. Various targets, which are not current necessities, may happen when headway has been made with the requirements, on the other hand assuming circumstances change and they have happened to higher need.

Focus for each goal depict unequivocal and quantifiable activities, accomplishments or edges to be achieved by a given date. These construction the focal point of any action plan, and effectively concentrate resources and guide the selection of decisions for movement. Since targets induce significant exercises and lead changes by unequivocal accomplices, they

should be the aftereffect of trade. Showing up at such goals will routinely require a legitimate and institutional change maintained by unequivocal organization capacities and instruments. Characterizing the goals for this change association and finding and zeroing in on the organization instruments and capacities is a critical piece of the most widely recognized approach to moving towards IWRM.

Institutional positions covers the positions, affiliations and systems expected to execute the strategy. This could integrate linkage between the IWRM plan and other key plans and between plans at different spatial levels: public, sub-public, close by, or for different regions or land areas. It would recognize which foundations are liable for which bits of the framework action plan, their degrees of chance and where they have a pledge to yield to various accomplices or procedure coordinators. It might in like manner banner a thinking for streamlining associations (especially where commitments get over or battle) or even propose the groundwork of new foundations as significant.

The movement plan is made from the aftereffect of the method and is presented in the accompanying module in spite of the way that there is a unified association that insinuates the course of action back to system as extra assessment and change occurs.

THE FRAMEWORK FOR MAKING STRATEGY DECISIONS.

Understanding the issues impacting water resources the chiefs is a chief beginning move towards action towards prudent organization and improvement of water resources.

Technique decisions should be attempted and taken on considering:

- The viewpoints on the accomplices, including government authorities;
- The reasonableness of the framework, including possibilities;
- The tradeoffs and various factors;
- Also, the cost.

This will require a review of the proposed strategy for affirmation by political interests, accomplices and to

the extent that money related and concentrated feasibility. As the association moves to the certified low down orchestrating stage this cyclic cycle is repeated until the activities, arranging and resources are achievable and inclined to be satisfactory to the accomplices.

4.3) Planning Area

The area of interest given for Ayodhya all-inclusive strategy was 388 Sq.Km and out of which Regulated area of Ayodhya improvement authority is 133.67 Sq.Km. In this manner, arranging region considered for the Master plan is 133.67 Sq.Km.



Fig.5 Ayodhya Faizabad Map [Sources: Mapsofindia.com]

1. Growth Direction of the City

The conceivable development design is seen in the southern side of the city. The development of the city is for the most part seen along the streets like Ayodhya-Azamgadh, Ayodhya - Prayagraj, Ayodhya - Raibareli and Ayodhya - Lucknow. Ayodhya Municipal Corporation is developing at quicker rate. The parkways going through city is joining Lucknow and Gorakhpur. Straight advancement is occurring towards Lucknow street. The advancement at quicker rate is seen on Sultanpur street. Direct advancement is additionally seen on Faizabad to Ambedkar nagar street. On Sultanpur and Raibareli fundamental streets business advancement and inside region is produced for private use. Modern improvement is created on Lucknow street. Institutional improvement is created

on Lucknow street, Ram Manohar college is created on Sultanpur street. K.S.Sanket Mahavidhyala and ITI are created among Ayodhya and Faizabad. Blend land use is seen towards the National interstate and public thruway.

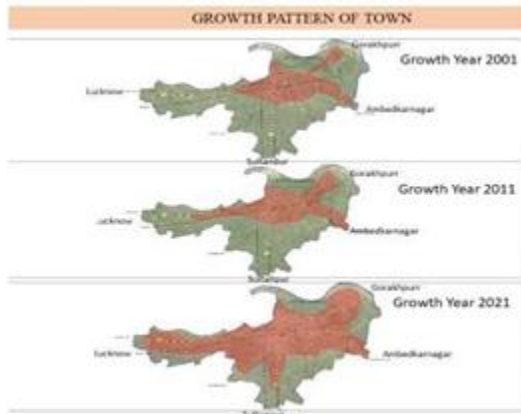


Fig.6 Growth Pattern
[Sources: <https://ayodhyada.in>]

Ayodhya - Azamgarh Marg

The advancement exercises along this street are normal because of Airport is situated on this street. But old turn of events, new advancement is expect to deter because of limitations.

Ayodhya - Prayagraj

The development of the city is seen along this street because of presence of higher optional school, Sugar plant, card board industrial facility and Agricultural ranch and so on. There is development potential along this street because of the Agricultural produce market and private turn of events.

Ayodhya Raibareli street:

On this street private advancement is expanding because of offices are created along the street.

Ayodhya - Lucknow

Straight advancement should be visible along this street and significantly all the modern improvement has occurred along this street. Likewise, it ought to be viewed as that as Ayodhya city dwells on the bank of Saryu River which is a perpetual stream and it's on the northern side of the city. Thus the development of the city towards northern side is beyond the realm of

possibilities and ought to be stayed away from because of wandering waterway.

2. Population Projection:

Populace projection is expected to figure out the legitimate development heading of the city. The arrangement of Physical foundation and Social framework. This depends on the extended populace of the Authority for the plan time frame. Any misjudged worth will make framework lacking for the reason expected; comparatively, misjudged worth will make it exorbitant. Change in the number of inhabitants in the city ought to be planned considering of the populace toward the finish of the plan time frame.

The populace projection has been finished utilizing Arithmetic Increase Method, Geometrical mean strategy, graphical and Incremental increment technique.

Math Increase Method: In this technique the typical expansion in populace each decade is determined from the past enumeration reports. This increment is added to the current populace to figure out the number of inhabitants in the following ten years. Subsequently, it is accepted that the populace is expanding at consistent rate. Henceforth, $dP/dt = C$ for example pace of progress of populace concerning time is consistent.

In this way, Population after nth ten years will be $P_n = P + n.C$

Where, P_n is the populace after n decade and P is available populace. (M.M. Ghangrekar, IIT Kharagpur)

Mathematical mean strategy: Geometric mean increment is utilized to figure out the future addition in populace. Since this strategy gives higher qualities and henceforth ought to be applied for another modern town toward the start of improvement for just couple of many years.

The populace toward the finish of nth ten years ' P_n ' can be assessed as: $P_n = P (1 + IG/100)^n$

Where, IG = mathematical mean (%) P = Present populace N = no. of many years. (M.M. Ghangrekar, IIT Kharagpur)

Gradual increment strategy: The steady not entirely settled for every ten years from the past populace and

the typical worth is added to the current populace alongside the normal pace of increment.

Subsequently, populace after nth ten years is $P_n = P + n.X + \{n(n+1)/2\}. Y$

Where, P_n = Population after nth ten years X = Average increment Y = Incremental increment. (M.M. Ghangrekar, IIT Kharagpur)

Henceforth for projections, populace is taken starting around 1961 to 2011(As per registration of India). The table underneath shows the populace projection for year 2021 and 2031;

Populace of Ayodhya Corporation having 41 towns combined is projected utilizing the techniques depicted above and normal of the multitude of strategies utilized is thought of.

Table 1. Population Projection of Ayodhya Development Authority urban area

Sr. No	Methods	Population Projection Ayodhya urban area (Average Population)					
		1981	1991	2001	2011	2021	2031
1.	Arithmetic Increase Method	132373	165,079	194,122	331062	397292	463521
	Average	132373	165,079	194,122	331062	455590	626959
	Max	132373	165,079	194,122	331062	564604	962894
	Min	132373	165,079	194,122	331062	389307	457799
2.	Incremental Increase Method	132373	165,079	194,122	331062	426381	521700
3.	Graphical Method	132373	165,079	194,122	331062	442938	554815
Population Projection						443288	6,00,665
Urbanizable villages 24 Nos							93,541
Floating Population							3,50,000
In-Migrants							1,50,000
Total Population in 2031							11,94,206

Colossal interests in the city is approaching future will draw in enormous number of talented, semi-gifted and incompetent workers. It will be worldwide objective where loads of convenience offices by confidential administrator will be created. Assessing the populace for the following decade is extremely challenging. This can't be replied by a strategy. Drifting populace at present visit Ayodhya in a day might be drawn to remain for additional days. An endeavor is made to gauge equivalent populace of ADA region will transients and float.

The number of inhabitants in Ayodhya Development Authority (ADA) region is supposed to be around 11.94 lakh in 2031. There are 24 towns that are inside the advancement limits subsequently the populace projection of these towns is additionally required to have been done, to assess the increment prerequisites in 2031. Also, the table underneath shows the populace projection of 24 towns that are inside arranging limit of Ayodhya improvement authority and are essential for country region. This populace is Urbanizable country populace.

Table 2. Population Projection of Villages

Sr. No	Methods	Population Projection Ayodhya urban area (Average Population)				
		1991	2001	2011	2021	2031
1.	Arithmetic Increase Method	35421	49224	57272	76363	95453
	Average	35421	49224	57272	67833	80341
	Max	35421	49224	57272	79590	110605
	Min	35421	49224	57272	66636	77531
2.	Incremental Increase Method	35421	49224	57272	79045	100819
3.	Graphical Method	35421	49224	57272	74000	96500
Population Projection average					73911	93541

The number of inhabitants in provincial area of ADA is supposed to be 93,541 by 2031. Subsequently, every one of the projections for conveniences that will be expected here are expected to be determined as these towns are likely Urbanizable regions.

Table. 3 Population Projection of Ayodhya Development Area

Population/Average Population	Year		
	2011	2021	2031
	3,88,334	517119	1194206

Consequently, the complete populace of Ayodhya advancement region is supposed to be 12.00 Lakh in the year 2031. Every one of the projections for conveniences that will be expected here are expected to be determined according to the populace projections.

Table. 4 WATER QUALITY OF SARYU RIVER

	Temperature		DO		pH		BOD		Coliform level	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
			>4mg/l		6.5-8.5		<3mg/l		<5000MPN/100ml	
Saryu at Ayodhya	18	25	7.4	9.9	7.8	7.9	2.9	4.1	7000	8000

3. Water Resources:

Saryu River

Ayodhya remains on the bank of Saryu River which has its heavenly importance from an antiquated time and its portrayal is given in Hindu sacred writings like the Ved and Ramayan.

The Saryu riverfront is otherwise called Ram ki Pairs, having an enormous stretch of ghats and nurseries, avoided by a line of sanctuaries. It is visited by many fans all through the year on different strict events.

The Sarayu River is a perpetual water asset, it begins from Lake Mansarovar in the Himalayas and is otherwise called the Ghaghra and the Manas Nandini. It converges with the Ganga in Bihar's Saran area.

According to the report of Central Pollution Control Board 2016, the water nature of Saryu at Ayodhya is as beneath:

[Source: Central Pollution Control Board 2016]

Separate data for the upstream and downstream is not available with department. But the quality of water of the Saryu River is well within the permissible limit.

RAINFALL AND CLIMATE

The typical yearly precipitation is 1034.8 mm. The environment is sub-damp and cold season begins in November and last till February, the late spring season starts in March and go on till the beginning of rainstorm by center of June. Around 90% precipitation happens from June to September During storm overflow surface water is accessible for profound permeation to ground water. January is by and large the coldest month with the typical least temperature of 70 C and mean month to month greatest temperature is 22.30 C. From March temperature climbs quickly and May and early June day temperature in some cases arrives at 470 C. After beginning of storm in June, there is considerable decrease in temperature. The mean month to month most extreme temperature is 320 C and mean month to month least temperature is 16.50 3.0 GEOMORPHOLOGY and SOIL TYPES C. Besides during the rainstorm and early piece of storm period the air is dry .The mean month to month morning related dampness is 72% and mean month to month evening relative mugginess half. The breezes are for the most part light besides in summer and storm when they fortify marginally. The mean breeze speed is 3.2 km/hr. The Potential evapotranspiration is 1660.9 mm.

GROUND WATER SCENARIO

A. HYDROGEOLOGY:

General Geology:

Faizabad locale frames a piece of focal Ganga plain and is underlain by a thick heap of alluvium stores of quarternary age. This alluvium is a heap of unconsolidated dregs comprised of grouping of mud, residue, kankar and various grades of sand. The sands are of shifting grade from exceptionally coarse to fine every so often turning out to be gravelly in nature. Sand blended in with rock and kankar structure the chief springs.

Sub-Surface-Geological Configuration:

To comprehend the subsurface spring framework exploratory borehole information penetrated by

C.G.W.B. at four area and information from state water system, tubewell development division were used and following derivations have been made.

- i. On territorial scale, a numerous spring bunch reaching out down to profundity of 745mbgl is existing as seen from exploratory well information bored by C.G.W.B. The thickness of the spring diminishes to 60 m and unmistakable mud having thickness of 30 to 40m is experienced at base. In eastern part, this spring has numerous mud focal points. Overall, the thickness of sandy layer expansion in the western heading. This might be because of existing waste arrangement of the stream Tons, which streams in the south eastern heading through the focal piece of the region.
- ii. Aquifers frameworks act as unsubstantiated, semi affirmed to restricted relying on the presence of dirt beds Aquifer material are fine to medium grained.
- iii. The presence of mud beds of variable thickness are overwhelmingly affirmed to region near significant seepage framework in particular Tons. The dirt beds might compare to periodical back bog of prior depositional climate. Event of Ground Water: Ground water happens in pore spaces of the unconsolidated alluvial residue in the zone of immersion. Residue from ground level to up to profundity/15 to 20.0 m., 8 include fine to medium grained sand with slight earth at top. In this zone ground water happens under unconfined condition. The profundity of dug wells changes from 3.60 mbgl to 12.50 mgl.

Depth to water level:

A scrutiny of premonsoon water level guide for the year 2007, uncover that the water level shifts from 2.45 mbgl at Bakarganj to 7.80 mgl at Bikapur.

Table.5 Water Level Fluctuation (Pre and Post) for the selected year 2007

S l. No.	Tehsi	Block	Well Name	Pre Monso on (mb gl)	Post Monso on (mb gl)	Fluct uatio n (m)
	1			-	-	

1	Bikapur	Bikapur	Chau re Bazar	7.80	4.00	+3.80
2	MAS ODH A	MAS ODH A	Naok ua	4.30	2.20	2.10
			Sakh upura	3.00	2.08	0.92
3	MAY A BAZ AR	MAY A BAZ AR	Bakar ganj	2.45	2.52	-0.07
4	MIL KIPU R	MIL KIPU R	Meet hagao n	5.60	5.51	0.09
			Milki pur	4.85	3.78	1.07
5	RUD AULI	RUD AULI	Ruda uli	-	2.79	-

Shallow water table condition is seen in Amaniganj and Milkipur blocks in south western part. Occasional

FLUCTUATION:

Water table is known to vary in regard to:

- a) Replenishable re-energize from precipitation
- b) Seepage from surface water bodies
- c) Inputs to ground water body by applied water system.
- d) Losses because of evapotranspiration.
- e) Discharge from ground water reflection structure.
- f) Ground water development Annual occasional vacillation of water level not entirely settled from the premonsoon (May 2007) and post storm (Nov. 2007). The change differs from - 0.07 m. to +3.50

m. The most extreme ascent of water level at Chau re Bazar (+3.50 m). Positive change ascend in water level because of south west rainstorm is seen all around the locale including flood plain of Ghaghra stream.

B. GROUND WATER RESOURCES:

The assessment of ground water asset capability of Faizabad locale has been worked out on the standards of proposed by Ground Water Estimation Committee and displayed in the Table-4. An audit of the table of ground water balance shows that accessibility of ground water in the locale is 110071.99 ham. Different variables, which are associated with ground water re-energize like precipitation drainage from waterway, leakage from applied water system, re-energize from surface water bodies like lake, lakes and flood plain have been considered. The most noteworthy ground water re-energize has been assessed in Rudauli block which is 19454.10 ham where as least re-energize is 7248.67 ham in Bikapur block. Correspondingly the ground water draft from various ground water construction, for example, dugwell, shallow and profound tubewells of whole area is 73301.55 ham. Most extreme ground water draft has been determined for Rudauli block which is 11427.89 ham where as least ground water draft has been turned out for Maya Bazar which is 5000.04 ham. The ground water balance for additional abuse of the region is 33675.20 ham. The greatest groundwater balance is found in Amaniganj block, which is 8113.91 ham. Where as Bikapur block has an equilibrium of 311.60 ham which is least.

Table.6 DYNAMIC GROUND WATER RESOURCES OF UTTAR PRADESH AS ON 31.03.2004

Sl. No	Assessment Units Blocks	Annual Ground Water Recharge (In ham)	Net Annual Ground Water Availability (in ham)	Existing Gross Ground Water Draft For All Uses (In ham)	Net Ground Water Availability For Future Irrigation Development (in ham)	Stage of Ground Water Development (in %)	Category of Block
1.	AMANIGANJ	15594.33	14034.90	5687.12	8113.91	40.52	SAFE
2.	BIKAPUR	7248.67	6523.81	5851.89	311.60	89.70	SAFE
3.	HARINGTEENGAN J	7719.81	6947.83	6284.22	447.02	90.45	CRITICAL
4.	MASODHA	10680.81	10146.77	6332.35	3326.96	62.41	SAFE

5.	MAWAI	10165.20	9148.68	6686.27	2256.17	73.08	SAFE
6.	MAYABAZAR	11033.56	10481.88	5000.04	5244.08	47.70	SAFE
7.	MILKIPUR	9626.72	9145.39	7572.87	1300.36	82.81	SAFE
8.	PURABAZAR	9378.23	8909.31	5791.60	2894.53	65.01	SAFE
9.	RUDAULI	19454.10	17508.69	11427.8	5706.20	65.27	SAFE
10.	SOHAWAL	9636.29	8672.67	5210.52	3258.33	60.08	SAFE
11.	TARUN	9502.29	8552.06	7456.77	816.05	87.19	SAFE
TOTAL		120040.0	110071.99	73301.5	33675.20	66.59	
		3		5			

Every one of the squares of Faizabad locale are under safe classification with the exception of Hasingteenganj block where transformative phase has accomplished 90.45%. The accessibility of ground water asset potential for water system for whole area stay 33675.20 ham for additional ground water improvement. Block wise most extreme asset of

8113.91 ham is accessible in Amaniganj block where the degree of advancement is just 40.52%. The base ground water asset is accessible in Bikapur block where the degree of improvement is most noteworthy for example 89.70%.

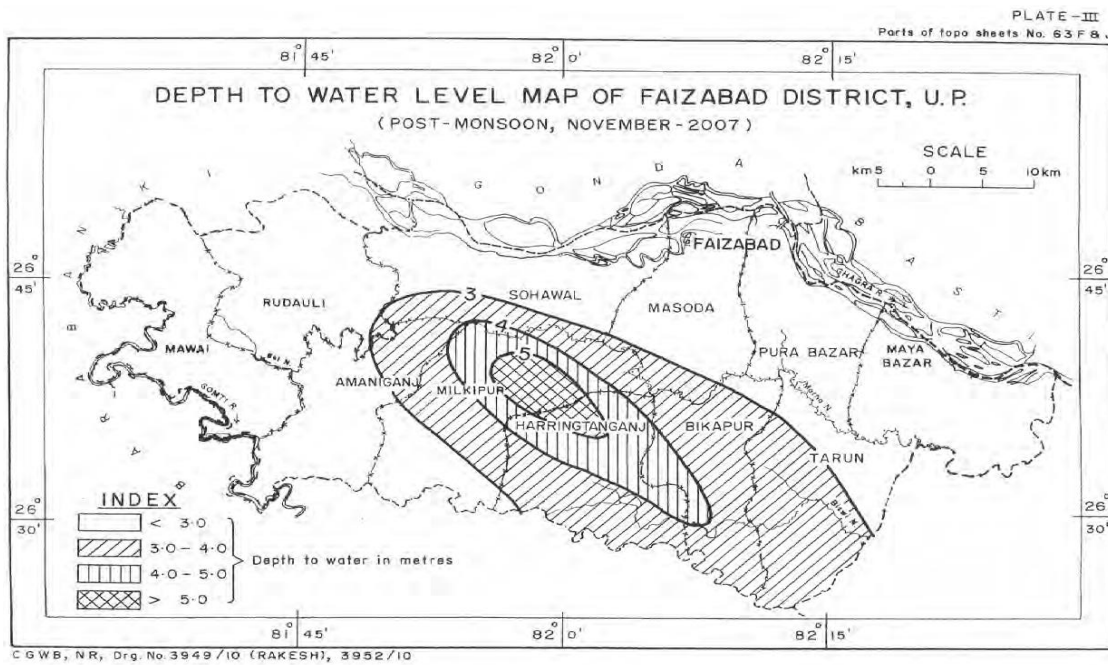


Fig.7

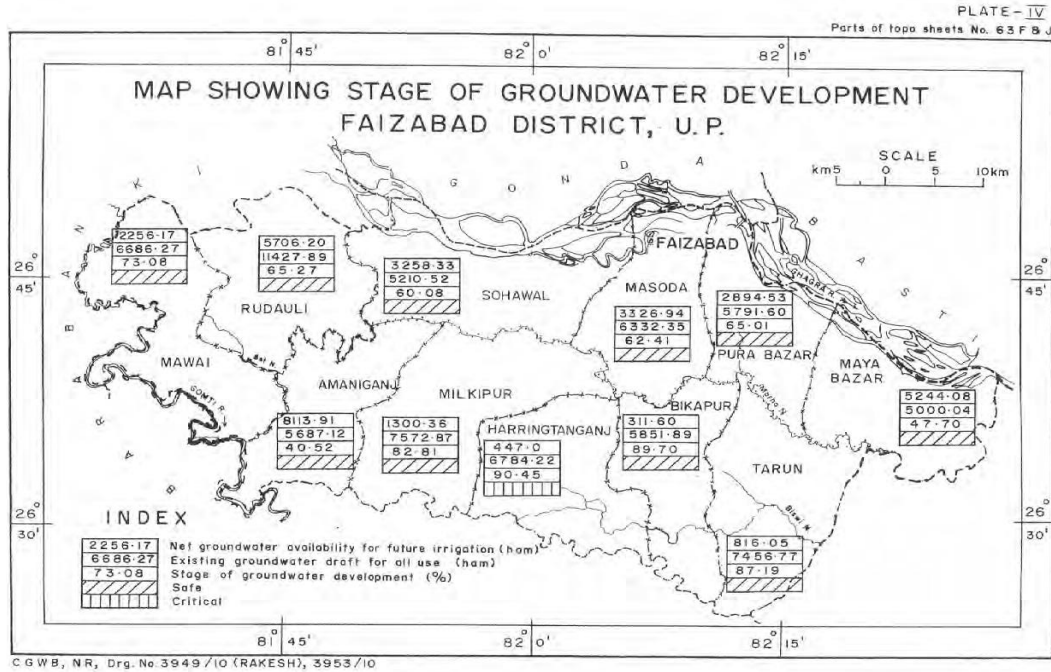


Fig.8

C. Previous Planning Initiatives

The subtleties of the drives under taken for the Ayodhya area are given underneath:

Master Plan (1983-2001)

For very much arranged advancement of the Ayodhya town under Uttar Pradesh Urban preparation and Development act 1973. Uttar Pradesh State Government had proclaimed the region under the line of Ayodhya Nagar Palika Urbanizable region under adjacent 65 income towns of Block Sohawal, Masodha and Pura Bazar, District Ayodhya as Ayodhya

Regulated Area by notice No. 2816/XXXVII-3-45N.K.V./78 Lucknow Dated December 17, 1979. From there on under Uttar Pradesh Urban Planning and Development Act-1973 previously mentioned Ayodhya Regulated Area announced as Ayodhya Development Area by warning No. 4490/XI-5-85-99D.A./78 Lucknow, Dated November 02, 1985 Ayodhya Master Plan-2001 endorsed by Uttar Pradesh Government is powerful in Development Area Ayodhya as of now and its modification is under process.

Table 7. Past Planning Efforts

Sr. No	Year	Event	Agency
1	1979	Area under the border of Ayodhya Nagar-Palika declared as Urbanizable area Under Uttar Pradesh Urban planning and Development act 1973.	Uttar Pradesh State Government
2	1983	Master Plan 1983-2001 was prepared	TCPD Uttar Pradesh
3	1985	Ayodhya Development Area declared under Uttar	Uttar Pradesh State Government

		Pradesh Urban Planning and Development Act-1973	
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Need of New Master Plan:

Ayodhya, situated on the bank of Saryu River is the strict the travel industry city of Uttar-Pradesh state. Ayodhya didn't have the Master Plan till 1980. The First Master plan of Ayodhya was ready in 1983. The city get tremendous number of vacationers on exceptional events because of its strict importance. This vacationer inflow consistently impacts the land use in encompassing regions, reflected in essentially higher land/property costs.

The primary Master Plan was ready in the year 1983 and was carried out in 1984 and in actuality; it was a fast land use work out. The Master plan was ready for the term of 1983-2001 and it was to some degree created according to the Master Plan. A large portion of the land-created against the land utilize proposed in the all-inclusive strategy the city and its rural region were dealing with basic issues because of populace development pattern, increment traveler inflow, lodging requests, water supply, waste, and so on. It causes what is going on because of impromptu turn of events and gridlock.

Additionally, Ayodhya is a touchy city, and the specialists are really buckling down to keep up with harmony inside the twin urban communities.

There is likewise some unapproved advancement found along the significant streets of the city which increment the issue of gridlock. Transformation of rural region into neighborhood is additionally seen which is against the land-utilize proposed in Master plan-2001.

The Master Plan 1983-2001 was the main Master plan ready for the ADA up until this point and till date it's right around twenty years since the Mater plan period has passed, along these lines the correction of Master plan has become important. This is an ideal opportunity to take up update of the Master Plan by Ayodhya Development Authority (ADA), Government of Uttar Pradesh.

The area of ADA has expanded its directed region from 133.67 Sq.km to 873 Sq.km by expansion of 343 towns and two towns in the year 2020, adjusted region

needs arranged advancement as Ayodhya turns into the universally significant city for strict the travel industry.

Accordingly, to satisfy the interest of populace and to control the turn of events, ADA chose to set up a Master Plan. According to the arrangement of Section 8,9,10 and 11 of The Uttar Pradesh Urban Planning and Development Act, 1973 it is a sculpture commitment to get ready Master Plan for

Development region at the earliest opportunity. There is a prompt necessity for an institutional structure to guarantee coordinated and comprehensive improvement of Ayodhya and its Urban Agglomerates as well as Neighboring Urban focuses.

RESULT

Water is the core of variation to environmental change, filling in as the pivotal connection among society and the climate. Further developed water assets the executives and admittance to safe water and disinfection for everything is fundamental in annihilating neediness, building quiet and prosperous social orders, and guaranteeing that 'nobody is abandoned' out and about towards reasonable turn of events.

The assurance and arrangement of drinking water is a fundamental need, and many would contend, a common liberty in light of the fact that a sufficient stockpile of drinking water is fundamental for human existence and prosperity. Drinking water is gotten to by people and families all through the world in an assortment of ways, going from filling jars from surface waters to just opening a tap from a funneled water supply. In late many years, huge headway has been made in giving admittance to safe drinking water.

Existing water supply status

At present accessibility of water supply is around 39.55 MLD and according to guidelines for the number of inhabitants in 221118 (Ayodhya) the necessity of water supply is 49.68 MLD. Along these

lines there is a hole of 10.13 MLD water supply. The quantity of regular water association inside the urban areas are 55 and the length of the appropriation framework is 254 km. There are absolute 14 water

supply big haulers are accessible and 1939 hand siphons are Indian Marked-2 Hand siphons.

Table8. Existing Water Supply

	Tap water		Hand pump	Well/tub well	Tanks/pond/	Rivers/Canal	Other
	Treated source	Untreated source					
1	NA	39.55 MLD	1939	NA	14	1	NA

Source: Jalkal Vibhag Ayodhya 2020

Table 9. Existing Water Supply Quantity

Sr. No	Quantity of Water supply	Times/hour of supply per day	No. of connections	Area covered	Metering achieved
1	39.55 MLD	2 Hours/Days	41718	-	-

Source: Jalkal Vibhag Ayodhya 2020

Table 10. Overhead Tank Details

Sr. No	Area	Capacity
1	Jalkal colony campus	2000 Kilo liter
2	Ridganj	1000 Kilo liter
3	Ashvini puram	2500 Kilo Liter
4	Anguri Bagh	2000 Kilo Liter
5	Sursuri Colony	25000 Kilo Liter
6	Tedhi bazar	250 Kilo
7	Jalkal Campus	750 Kilo lite
8	Nalkup No.06	1200 Kilo Liter
9	Asharfi Bhawan	1200 Kilo Liter
10	Rajdadar	2200 Kilo Liter
11	Jhunki Ghat	250 Kilo Liter
12	Kashiram colony	750 Kilo Liter

Source: Jalkal Vibhag Ayodhya- 2020

There are total number of 12 over head tanks in Ayodhya city.

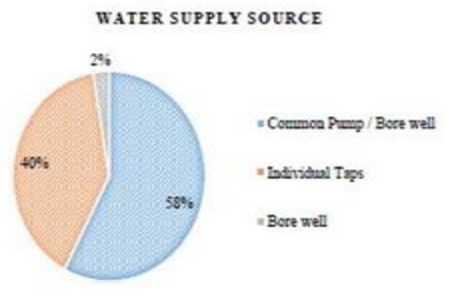


Fig.9

The Above charts show the data collected by primary survey; it can be seen that major water supply source is ground water that is 58% with an better quality for drinking purpose. The ground water quality is good for potable purpose and the water supply project based on bore wells is executed.

As per URDPFI Guideline and CPHEEO manual 1999 the maximum quantity of water supply required for the city is 135 lpcd and for rural areas is 70 lpcd. Hence projections are done accordingly. As per the MOEF guidelines, waste water needs to be treated and at least 33% water is required to be reused.

- Drainage

At present significant region is shrouded by open channel in the Ayodhya region. Faizabad region is

Table 11. Storm Water Drainage Data

Sr. No.	City	Open surface drains	Covered drains	Underground Sewage	other
1	Ayodhya	Yes	Yes	No	-

Source: Census of India 2011

Likewise structure the essential review it was found that Ayodhya has both open and shut channels, nonetheless, underground seepage frameworks are expected in the city for keeping up with clean circumstances and improve the tasteful perspective on the heavenly City.

At present the open channels are conveying storm water during downpours. No different tempest water channel is laid in whole ADA region. Under CDP storm water waste arrangement is getting looked at. Clean

covered by underground waste office. 12 MLD STP is functional in the city. The crude dim water from open channels are delivered in stream without treatment.

Underground waste undertaking is under plan and finished soon. The STP site isn't chosen at this point. The STP site planned will be situated at two spots, for which land designation is forthcoming. Whole ADA region is covered for seepage offices.

- Storm water drainage

During precipitation periods there can be a lot of tempest water that doesn't invade into the ground surface and the greater part of this turns into the overabundance overland stream or direct surface spillover. There are many contributing elements for examining the amount and transient varieties of this stream; these incorporate geography of the land, geology, topography, precipitation force and example and the land use type. Assessment of such overflow arriving at the tempest sewers, is reliant upon the force and term of precipitation, qualities of the feeder region and the time expected for such stream to come to the sewer.¹ Therefore an appropriate waste organization will be required for the stream to arrive at the sewer without logging the region.

Powerful disinfection and cleanliness programs need to join mediations to change conduct with the choice of the right innovation. Changing way of behaving requires socially touchy and suitable wellbeing instruction. Individuals need to comprehend, in wording significant to their ways of life and existing conviction frameworks, why better wellbeing relies upon the reception of cleanliness practices, for example, hand-washing (after crap, subsequent to taking care of children's defecation, and prior to cooking), on the utilization of restrooms for safe removal of dung, and on safe capacity and treatment

of drinking-water and food. Bringing issues to light of why sterilization and cleanliness are significant will

frequently build inspiration to change hurtful ways of behaving.

Table 12. Sanitary Data

Sr. No	City	Water Closet			Pit Latrine	Flush/Pour Flush	Other latrine	No latrine
		Piped sewer system	Septic tank	Other system				
1	Ayodhya	Nil	Nil	Nil	450	4447	1800	-

Source: Census of India 2011



Source: Primary Survey 2020

Fig.10

In this way, from the above outline it very well may be seen that Ayodhya is open poo free and from family overview it was found that greatest number of family has Separate latrine offices and 7% individuals utilize public latrines.

10.3.6 Water supply Requirement in Ayodhya Development Area

In past segment it was seen that there is 10 MLD absence of water supply in the Ayodhya city in this way, according to the rules in metropolitan region 135 lpcd is required water supply. Along these lines, for the number of inhabitants in 10.99 lakh in 2031 how much water supply required is displayed in the table beneath. According to MOEF rules, out of 135 LPCD, 90 liters to be new provided and 45 lit treated water for every capita is to be considered for water supply.

Table 13. Projected Water Supply Requirement for Ayodhya Development Area

Sr. No	Projected Water Supply	2021	2031	Unit

1.	Quantity of Water supply	34.06	107.47	MLD
2.	Elevated Service Reservoir	6000		KL
3.	Under Ground sump	12000		KL

[Source: URDPFI Guideline 2014]

Thus, the water supply required will be 107.47MLD in the year 2031. The upward tanks required is 244 MLD with an underground sump limit of 489 MLD

Storm water waste:

Storm water waste is the most common way of emptying overabundance water out of roads, walkways, rooftops, structures and different regions. The framework used to deplete storm water are frequently alluded to as tempest depletes and are likewise called storm sewers and waste wells (Harshil. H. Gajjar, 2006).

A tempest water waste framework ought to be intended to gather and convey run-off created inside a catchment region during and after precipitation occasions, for safe release into a getting conduit or the ocean. The extent of pinnacle streams that must be obliged will rely principally upon the force of precipitation and the size, geology, soil type, arrangement and land utilization of the catchment.

Storm sewers (additionally storm channels) are enormous lines or open channels that transport storm water spillover from roads to regular waterways, to

keep away from road flooding. In Ayodhya manageable tempest water assortment frameworks can be taken on as not just it will help in putting away the downpour water yet additionally it will give a special personality to the city. One of the reasonable frameworks is introducing ground depletes or channel along the controls of the street.

Channel Drains are accessible in both inclined and non-slanted plans. At the point when the channel is introduced in a space where slant as of now exists, an unbiased or more modest channel configuration might be utilized to net comparable execution. If an excess of slant is available, flooding might happen because of the wave impact or channel outlet constraints.

The water can be handily depleted into either into the sewer line or it very well may be gathered into a channel and depleted into the regular water bodies or kund. An illustration of channel is displayed in the picture.

Sewage

At present there is one treatment plant with a limit of 12 mld which is adequate for 1,11000 populace serving Faizabad region just yet with expanding populace the limit of the sewage treatment plant will be expected to increment. As indicated by the extended populace of 2031 a sewage treatment plant of limit is 109.95 MLD will be required. DPR for ADA region is under planning and will be finished soon. The Treatment destinations are not settled as of now, will be finished soon.

The most effective method to full fill water necessity :
Procedures:

1. Man-made repositories:

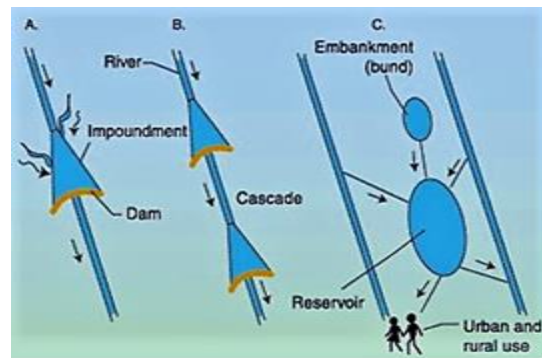
Now and again called fake lakes, are significant water sources in numerous nations all over the planet. As opposed to normal cycles of lake development, repositories are fake, typically framed by building a dam across a waterway or by redirecting a piece of the stream and putting away the water in a repository. Endless supply of the dam, the waterway pools behind the dam and fills the falsely made bowl (UNEP 2000). Occasional changes of overflow and precipitation feed the repository. There are huge contrasts in the size of

man-made supplies, for example, enormous counterfeit lakes or little lake like water bodies.

The put away water can be utilized for water system, drinking water after filtration or to create energy.

Benefits

- Speedy and simple admittance to a water source
- Making of drinking endlessly water for different purposes
- Expanded security of downstream stream from flooding occasions
- Expanded potential for supported farming water system
- Creation of energy (hydropower)
- Capacity of water for use during low-stream periods



[Source: Different types of reservoir systems. Source: UNEP (2000)]

Fig.11

Like lakes, repositories range in size from lake like to extremely enormous water-bodies (for example Lake Powell, U.S.A.). The varieties in type and shape, nonetheless, are a lot more noteworthy than for lakes. The term 'repository' incorporates a few kinds of built water-bodies or potentially water storage spaces:

- Valley supplies - made by developing an obstruction (dam) opposite to a streaming waterway.
- Off-stream capacity repositories - made by building a walled in area lined up with a waterway, and therefore providing it with water either by gravity or by siphoning from the waterway.

The last repositories are here and there called dike or limited supplies, and have controlled inflows and surges to and from at least one streams.

Notwithstanding single supplies, repository frameworks likewise exist, and incorporate outpouring repositories - comprising of a progression of supplies developed along a solitary waterway, and between bowl move plans - intended to move water through a progression of repositories, burrows and additionally channels starting with one seepage bowl then onto the next.

2. GROUND WATER MANAGEMENT STRATEGY

Faizabad locale involves alluvial regions. The cultivators of the area are having little land holding being poor. The divided idea of land possessions making a difficulty to a singular formers to foster the ground water assets financially. Following methodology might be taken up to improve the water system for future turn of events.

- i. Mass mindfulness program ought to be taken up to instruct the clients in regards to declining pattern of water level.
- ii. Marginal ranchers might be given monetary guides for fostering the ground water deliberation structure.
- iii. Most of the drag wells are fitted with diesel siphon set. The siphoning costs is higher to unfortunate ranchers. Power accessibility might be upgraded by taking up power projects in future.
- iv. The trenches primary branch/distributaries and minors ought to be lined to limit the drainage in waterway order regions. Subsequently making accessibility of more water at the last part of channels.

- Agricultural status

The Economy of Uttar Pradesh is fundamentally agrarian in nature. Greater part of the populace in the state relies upon agribusiness for its work. As high as 65% of the all out labor force in the state relies upon agribusiness a large portion of them are beneath neediness line. Horticulture of the state plays a principal part in the food creation and food security of the country. As per Agriculture study 2011-12, there are 233.25 lac rancher in the state. It is the aftereffect of difficult work and endeavors of the ranchers that the state has become independent in the field of food handling and advancing towards more than the prerequisite. Accordingly, to know the horticultural

potential inside the arranging limit, the farming area in the towns are determined and displayed beneath.

AGRICULTURAL LAND IN ADA AREA

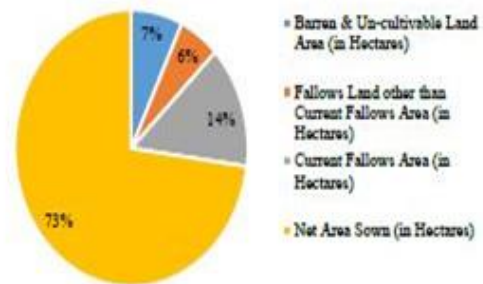


Fig.12(a)

Thus, from the pie chart it can be seen that the net sown area is around 73% and Barren land is around 7% in the rural areas.

AGRICULTURE LAND OWNERSHIP

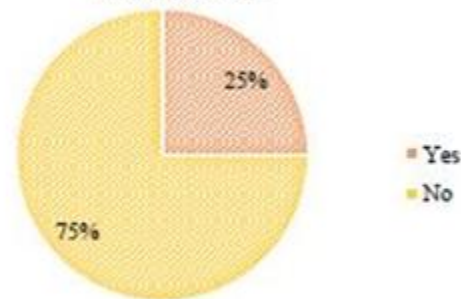


Fig.12(b)

Source: Primary Survey-2020

AGRICULTURAL LAND IN RURAL AREA of ADA IRRIGATED LAND

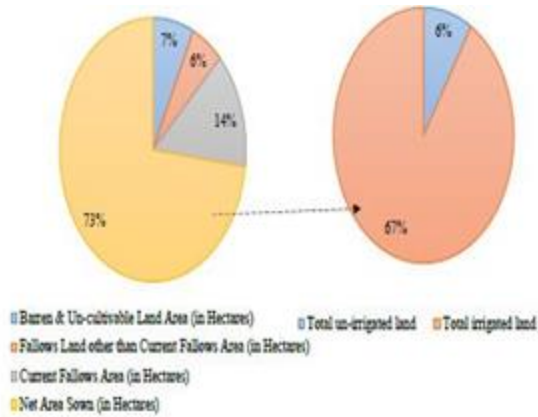


Fig.13(a)

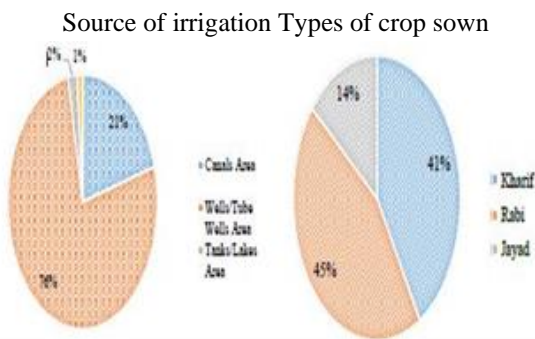


Fig.13(b)

Source: Census of India 2011

APMC Market

In Uttar Pradesh agrarian Markets are laid out and directed under the UPAPMC Acts. As of late, The Uttar Pradesh Government has made a revision for disposing of center man and elevating ranch to Market. In this ranchers will be straightforwardly ready to sell their produce, which is cash yield to the shoppers. At present there are two APMC market one is at Ayodhya of 39.30 section of land and one at Radauli of 8.00 section of land.

From the essential study it was likewise seen that Ayodhya is wealthy in farming produce the Table beneath show the Agricultural Production each year in Ayodhya.

Table 14. Agricultural Commodity Production

Total Agricultural Commodity production	Quantity (in Quintal)	Value (in Rs)
---	-----------------------	---------------

2015-2016	2412663	215,39,09,100
2016-2017	266129000	222,05,82,950
2017-2018	2746310	313,38,24,316
2018-2019	2494966	319,00,84,000
2019-2020	2616387	294,39,95,060

Source: Nagar Nigam Ayodhya 2020

Explicit Mechanism for Agriculture Sector:

Powerful drives should be taken for dealing with the reflection of groundwater by the ranchers possessing private wells. By and by, there is no confirmation count of all water system wells, however that could associate with at least 3,000,000 in India. Same is the situation with other groundwater wells, being utilized in families/homegrown, modern, business areas and other mass clients.

Agricultural area needs total change in water system water use:

Groundwater use in farming area is of most extreme significance, consequently solid guideline over water system water (groundwater) is the need of great importance. In U.P. situation, it becomes basic to form standards for the utilization of groundwater for various yields, so the current extraction rate could be actually managed and diminished to save and safeguard it. I. Seat checking for ideal number of water system (Crop watering) should be produced for various harvests, seasons and agro-climatic zones. The quantity of waterings expected for various yields ought to be distinguished and directed. Division in water should involves in farming area needs to investigated and deductively tended to. ii. Less water polishing off harvests ought to be controlled and told for pushed regions for planting according to the accessibility and need of ground water. For this intercession, ranchers ought to be boosted. iii. Advancement and reception of effective water use procedures ought to be supported. what's more, ranchers ought to likewise be boosted for embracing such water effective techniques. Water use productivity by miniature water system including trickle water system is basically as high as 80 to 90% in contrast with simply 30 to 40%

in regular flood water system, bringing about saving of impressive measure of water system water, particularly groundwater withdrawal, under dribble water system. iv. Miniature Irrigation (dribble/sprinkler) ought to be widely advanced in the state, as it is an expected region and proficient innovation for controlling and decreasing groundwater drones in agribusiness area.

Nonetheless, achievability of such plans for various yields and for the little holding size ranchers not entirely set in stone.

- The significant harvests reasonable for miniature water system framework, under various agroclimatic zones, ought to be informed for reception.
- Around 90% ranchers are little and negligible with land holding size under 1 hectare, along these lines this angle is very critical while advancing trickle and 220 sprinkler water system, on the grounds that for the ranchers, the support and running expense on such gadgets will be challenging to make due. v. The effect of execution of miniature water system conspires should be audited. In Uttar Pradesh, having around 37 lakhs private water system wells, just 0.25% are covered with miniature water system, which is extremely less whenever contrasted with the National inclusion of 5%.

CONCLUSION

The above study, it was observed that there is 10 MLD lack of water supply in the Ayodhya city thus, as per the guidelines in urban area 135 lpcd is required water supply. Therefore, for the population of 10.99 lakh in 2031 the amount of water supply required is shown in the table below. As per MOEF guidelines, out of 135 LPCD, 90 liters to be fresh supplied and 45 lit treated water per capita is to be considered for water supply. Required water can be obtain by artificial lake for urban region. Water of lake will be store from Saryu river or rain fall.

Water bodies, cremation and burial grounds have been earmarked in the draft land use plan for 2031. However actual area and location of all water bodies, cremation and burial grounds as per the concerned revenue records will remain be maintained without

any charges in their land use. In case there is any difference in the proposed land use plan, their use will be considered as per revenue records only.

In some cases urban land use activities have been proposed in existing orchard areas. However these proposed land use activities shall be applicable only after following the provisions of Forest Act and compliance of any direction issued by the concerned Authorities.

Open drains are carrying sullage from the city and surrounding area, contaminates the ground water and responsible for water borne diseases. It is proposed to provide underground drainage system in the entire new development area. For the Sewage treatment plant, a low-lying area admeasuring 10000 sq. m. on south west side near water body is proposed. For pumping stations, the wider roads can be used. Reuse of treated water is also required to be reused for urban area. The city area roads are narrow and difficult to provide open storm water drains. It is proposed to provide piped drain in congested area and open RCC box drains on the proposed roads. The water will be collected in storm water drains and ultimately released in the river. It is required to be designed for 50mm rainfall per hour.

The water bodies are required to be protected from encroachment. For conservation of water bodies, it is proposed to have 9 m. belt from water bodies as restricted zone. For the conservation of Rivers. River front development is proposed to provide recreational area to the citizen. Restriction of development within 30 m. margin from river boundary is proposed.

RECOMMENDATION

Faizabad district has 33675.20 ham of ground water availability for future irrigation. To increase the agricultural productivity the main requirement is that the groundwater should be developed in a planned and scientific manner The recommendation are as follows:

1. Shortage of drinking water can be resolve from artificial lake through well water distribution management.
2. The actual utilization of ground water available for irrigation is much less than potential available .All the blocks except "HARIGTEENGANJ" falls

under safe category. Multiple cropping pattern should be adopted to utilize the potential available.

3. Marginal and poor farmers should be given financial help for constructing ground water abstraction structure with a view to draw water for irrigation.
4. The concept of conjunctive use of surface water and ground water in canal command area be adopted. Conjunctive use of ground water can be planned as given below.
 - a) Ground water can be used in the Kharif seasons to supplement irrigation requirement to the necessary extent.
 - b) It can be used during Rabi season when rainfall contribution is much less compared to the irrigation requirement
 - c) Ground water can also be used for meeting its requirement of summer crops.

5. Need for Strict Policy/Regulatory Measures

i. Discourage Injection

Well for Ground Water Recharging In roof- top rain water harvesting technique, injection well, bore well or recharge well methods are usually in practice for direct recharging of rain water into the aquifers. Geo-scientifically, this method should be precisely adopted with all necessary precautions in light of probabilities of pollution risks. It has been a general observation that the use of injection well has become a common practice without following the specified norms which might contaminate aquifers.

- ii. In any case, recycled water, treated waste water and rain water from paved/unpaved open fields, waste disposal, overflows should not be allowed for direct recharging into the aquifers through injection well, shafts, abandoned bore wells/hand pumps. (Penal 218 provisions are envisaged in the U.P. Ground Water Act-2019). A large number of such structures already constructed should be indentified and penalised as per the provision of the U.P. Ground Water Act-2019.

ACKNOWLEDHEMENT

In the sensation of phenomenal bliss and satisfaction I present this endeavor named " Integrated Water Resources Management For Ayodhya (U.P.)". The completing of this errand is no doubt an after effect of

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