PROJECT REPORT TEMPLATE

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TRACING THE GROWTH OF GLOBAL COMUNITY A POPULATION FORECASTING ANALYSIS

BY TEAM :

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INTODUCTION

1.1 Overview

The world's population is more than three times larger than it was in the mid-twentieth century. The global human population reached 8.0 billion in mid-November 2022 from an estimated 2.5 billion people in 1950, adding 1 billion people since 2010 and 2 billion since 1998. The world's population is expected to increase by nearly 2 billion persons in the next 30 years, from the current 8 billion to 9.7 billion in 2050 and could peak at nearly 10.4 billion in the mid-2080s.

This dramatic growth has been driven largely by increasing numbers of people surviving to reproductive age, the gradual increase in human lifespan, increasing urbanization, and accelerating migration. Major changes in fertility rate have accompanied this growth. These trends will have far-reaching implications for generations to come.

1.2 Purpose

A population projection gives a picture of what the future size and structure of the population by sex and age might look like.It is based on knowledge of the past trends, and, for the future, on assumptions made for three components: fertility, mortality and migration.

Population forecasting is a method to predict/forecast the future population of an area. Usually, the population at the design period of water supply systems is predicted to find the water demand at that time, as the systems are required to fulfill their purposes till the end of the design period. Methods to predict the population are discussed further.

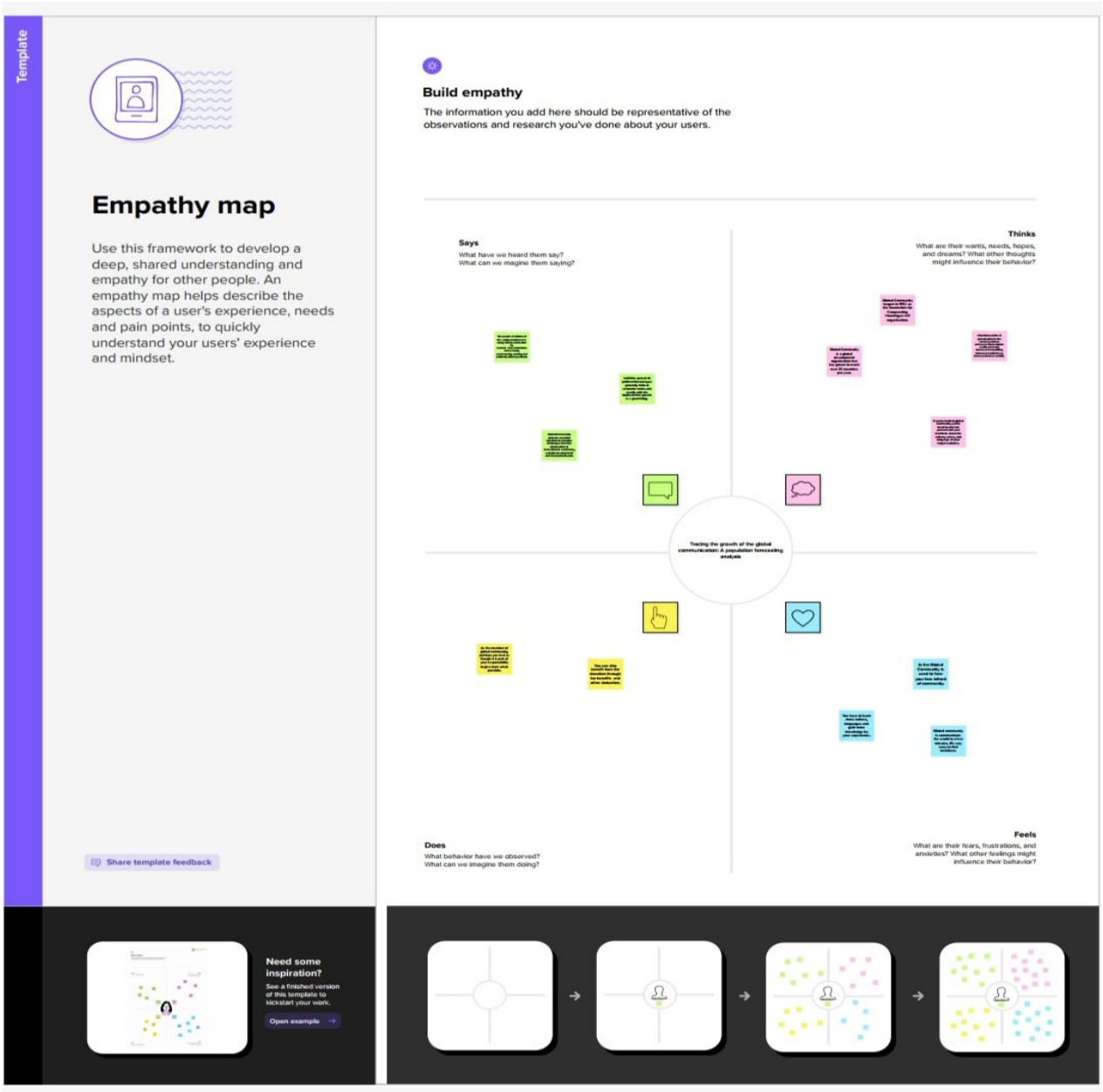
In this method assumed that the population is increasing at a constant rate. This method is suitable for a large and old city with considerable development.

Design of water supply and sanitation scheme is based on the projected population of a particular city, estimated for the design period. Any underestimated value will make system inadequate for the purpose intended; similarly overestimated value will make it costly. Changes in the population of the city over the years occur, and the system should be designed taking into amount of the population at the end of the design period.

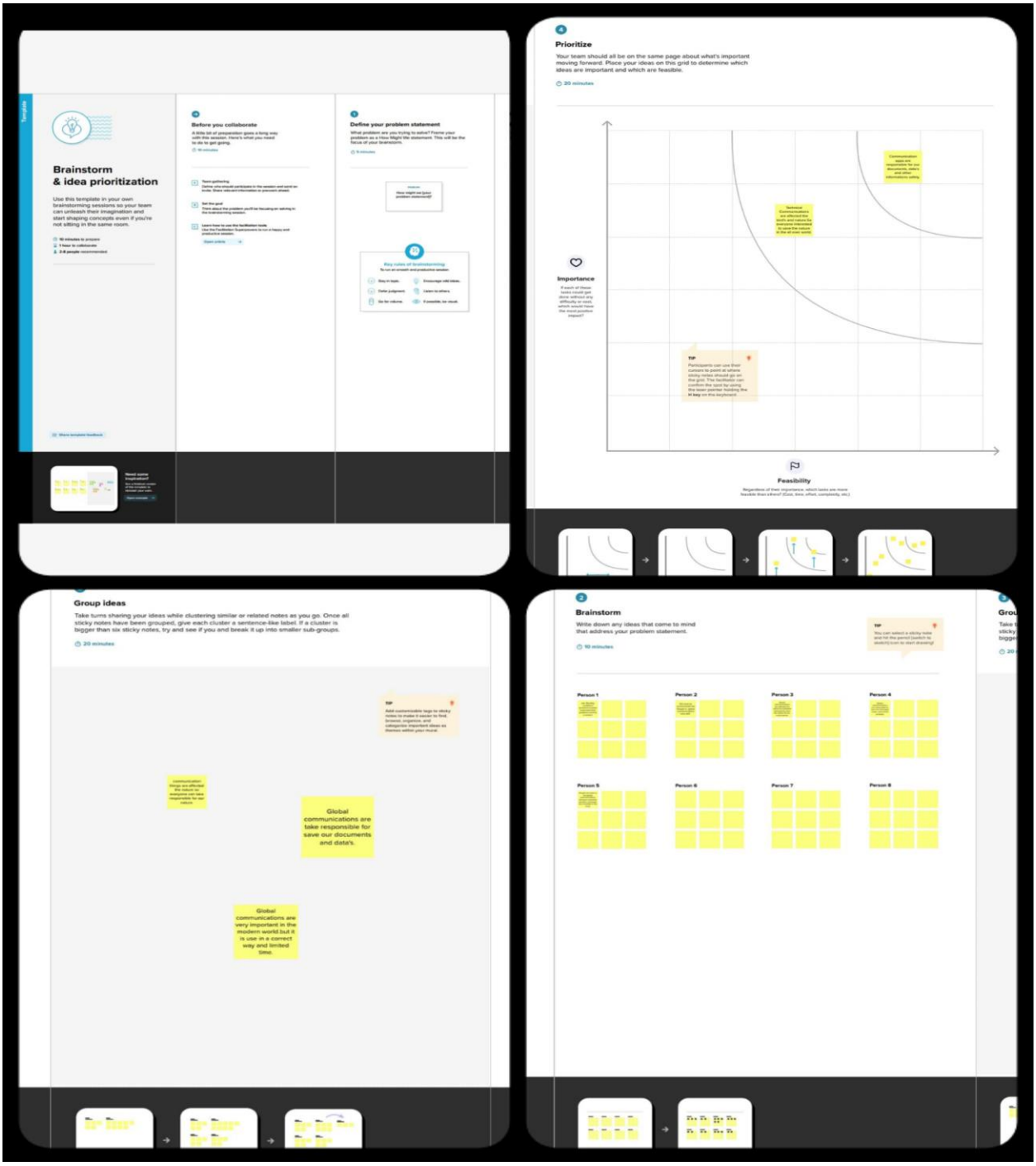
Factors affecting changes in population are : increase due to births, decrease due to deaths, increase/decrease due to migration, increase due to annexation.

PROBLEM DEFINITION & DESIGN THINKING

2.1 . Empathy Map



2.2 Ideation & Brainstorming Mapping

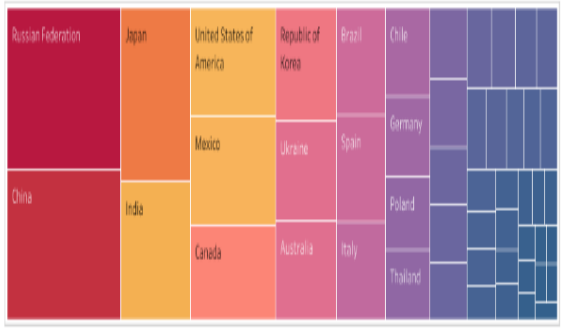


RESULT :

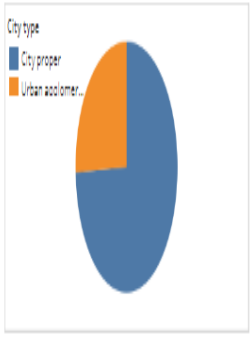
DASHBOARD

D1

Countries by highest avg population from 2000 - 2014

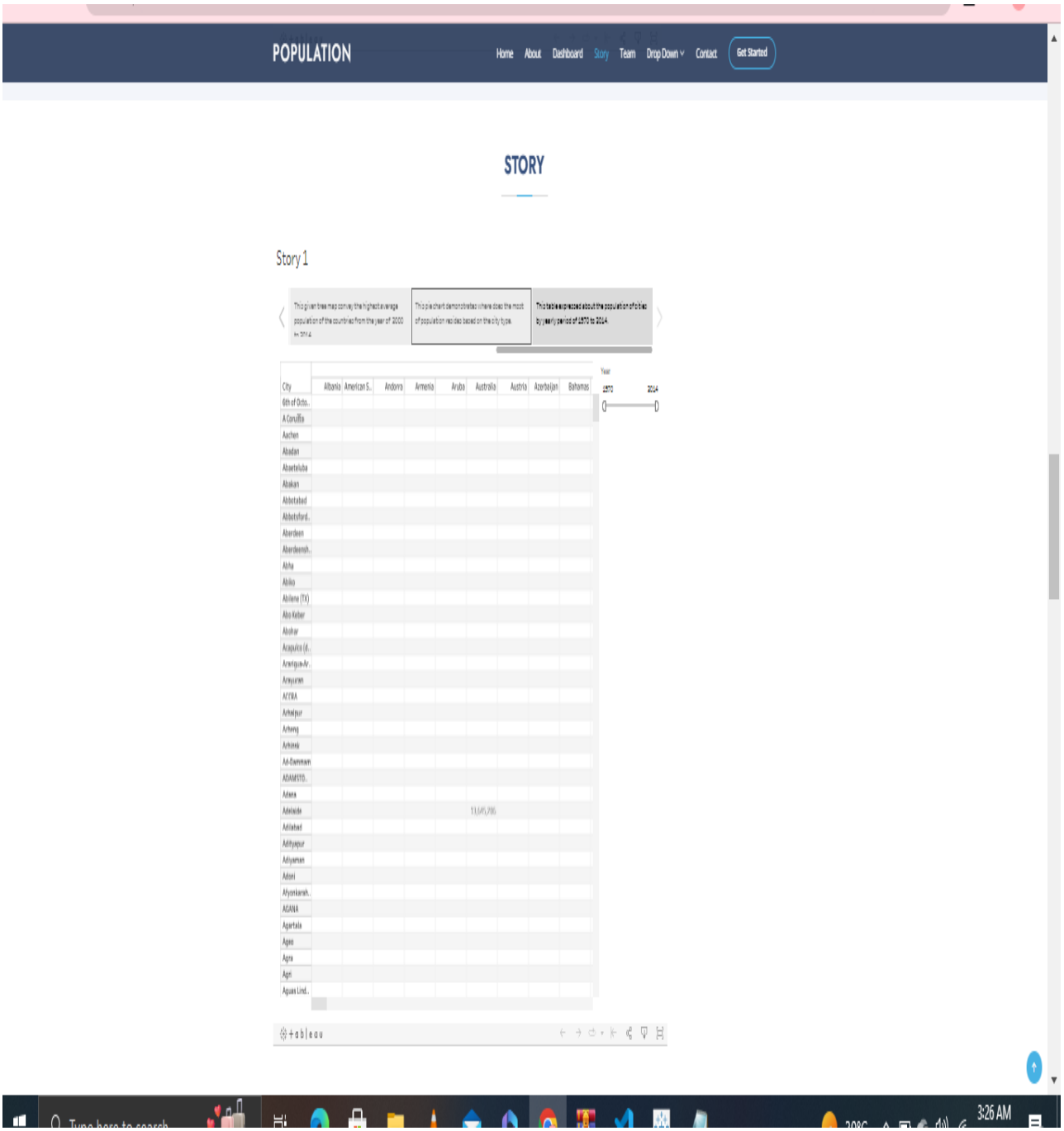


Population by city type

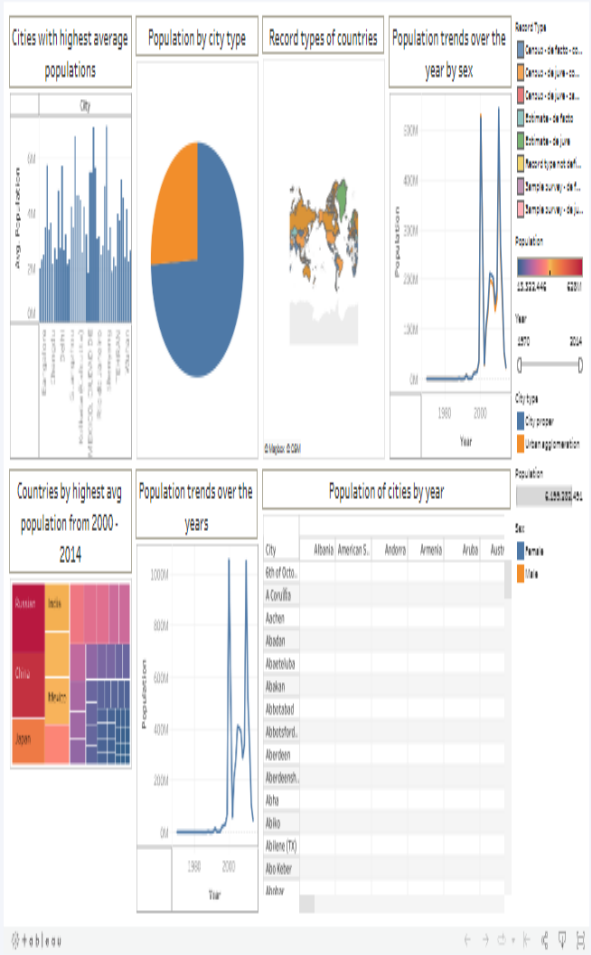


Population of cities by year

City	Albania	American S..	Andorra	Armenia	Aruba
6th of Octo..					
A Coruña					
Aachen					
Abadan					
Abaeteluba					
Abakan					
Abbotabad					
Abbotsford..					


POPULATION
Home
About
Dashboard
Story
Team
Drop Down
Contact
Get Started
STORY
Story 1
This given tree map convey the highest average population of the countries from the year of 2000 to 2014
This pie chart demonstrates where does the most of population resides based on the city type.
This table expressed about the population of cities by yearly period of 1970 to 2014.
City
Albania
American S..
Andorra
Armenia
Aruba
Australia
Austria
Azerbaijan
Bahamas
Year
1970
2014
6th of Octo..
A Coruña
Aachen
Abadan
Abaeteluba
Abakan
Abbotabad
Abbotsford..
Aberdeen
Aberdeensh..
Abha
Abiko
Abilene (TX)
Abo Keber
Abohar
Acapulco (d..
Arerigua-Ar..
Arayuran
ACCRA
Arhalpur
Arheng
Arhinek
Ad-Dammam
ADAMSTO..
Adana
Adelaide
11,645,785
Adilabad
Adityapur
Adiyaman
Adoni
Afyonkarah..
AGANA
Agartala
Ageo
Agra
Agri
Aguas Lind..
+ a b | e a u
3:26 AM

VISUALIZATION



ADVANTAGES & DISADVANTAGES

4.1 Advantages

Economics of scale from higher population

Enables specialisation

Higher population densities more efficient

More scope for innovation, invention and creative genius

Increasing human capital

4.2 Disadvantages

Increased pressures on natural environment

Water shortages

Increasing pollution

Excerbates global warming

More waste creation

Over-use of non-renewable resources

APPLICATIONS:

In the solution of any planning problem, the planner either makes an explicit forecast, or makes some implicit assumption about the population for which he is planning. "Population" includes much more than mere numbers of people. The planner must know what kind of people live in his planning area, what types of lives they lead, and would like to lead, how long they will live, and how long they will reside in the particular area; and who will replace them when they move out or die; how many children they will have (and would like to have under different conditions), whether these children will live in the area, and many other factors.

Many communities have installed facilities which have become useless because predicated on faulty estimates of future population, or they have failed to install facilities where justified by future population. A common example of such errors is the newly constructed school in an area where the population is aging rather than being replaced by young, child-bearing families. Sewer systems have been expensively developed only to be later replaced because the population soon was double or triple what was anticipated for the area. Narrow streets have been later widened at great expense. On

the other hand, land often has been overly zoned for commercial purposes in the expectation of a vast increase in population which did not materialize. Or land was zoned for potential capacities in some cities of whole state or even the entire population of the country. Prematurely subdivided land is plaguing many of our communities today.

CONCULUSION *:*

It cannot be over-emphasized that there are many varied factors influencing birth rates, migrations,and to a lesser degree, death rates. Unfortunately, much of the research necessary to isolate these various factors and to appraise their effects remains to be done. The planner in forecasting future population for his area may seek the aid of a demographer especially trained in the technical study of population. However, the planner must work closely with the demographer to constantly relate planning considerations to statistical manipulations. The planner, with his knowledge of the area and study of its economic potentialities and his proposals for future densities (and distribution of these), has insights into the developmental pattern of a community, which the demographer lacks.

Population projections, like master plans, must be revised quite frequently. It has been suggested in this report that several alternative projections be made on the basis of different sets of assumptions. It has also been recognized that in the last analysis, the planner must use as a working guide that population projection he considers most feasible. In making population projections, the planner need not be so much worried about errors in forecasting the numbers of persons (a five percent under or over-estimation of population should not disrupt a community!) but he should be concerned about an error in the kinds of anticipated persons. For example, in a community of anticipated 100,000 population, 5,000 additional persons could be absorbed; if all 5,000 additional persons were children of school age, however, the effects on community facilities might be disastrous.

There is no easy method to population forecasting. Some demographers feel that fertility and mortality rates are nearing some sort of stability. Should this actually happen, a series of formulae might be developed by which fertility and mortality might be projected, leaving migration as the field for most intensive scrutiny. The "stability" does not yet exist. Given though the planner of today must resort to "enlightened guesses", he must be aware of the many complex interacting forces that influence future population numbers, composition and place of residence.

FUTURE SCOPE:

To imporve population forecasting in the future, demographers should con- duct more thorough assessments of the accuracy of past projections. Re- search should also focus on making greater use of:

(1) models that include marriage, divorce, cohabitation, morbidity, and other demographic events that influence fertility, mortality, and migration as well as models that break populations down by educational achievement, employment status, and other variables

(2) models that take account of economic, social, and en- vironmental dynamics, including integrated structural models and models with constraints.

(3) forecasting approaches that systematically quan- tify uncertainty. A further area that requires rethinking is the appropriate use of expert judgment in population projections. Finally, new ways need to be developed for distributing software for making population forecasts and for disseminating the results of alternative forecastes.

APPENDIX:

8.1 Source Code:

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8">
  <meta content="width=device-width, initial-
scale=1.0" name="viewport">

  <title>Population Forecasting Analysis</title>
  <meta content="" name="description">
  <meta content="" name="keywords">

  <!-- Favicons -->
  <link href="assets/img/favicon.png" rel="icon">
  <link href="assets/img/apple-touch-icon.png"
rel="apple-touch-icon">

  <!-- Google Fonts -->
  <link href="https://fonts.googleapis.com/css?
family=Open+Sans:300,300i,400,400i,
600,600i,700,700i|Jost:300,
300i,400,400i,500,500i,600,
600i,700,700i|Poppins:300,
300i,400,400i,500,500i,600,600i,700,700i"
rel="stylesheet">

  <!-- Vendor CSS Files -->
  <link href="assets/vendor/aos/aos.css"
rel="stylesheet">
  <link href="assets/vendor/bootstrap/
css/bootstrap.min.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap-
icons/bootstrap-icons.css" rel="stylesheet">
  <link href="assets/vendor/boxicons/
css/boxicons.min.css" rel="stylesheet">
  <link href="assets/vendor/glightbox/
css/glightbox.min.css" rel="stylesheet">
  <link href="assets/vendor/remixicon/
remixicon.css" rel="stylesheet">
  <link href="assets/vendor/swiper/swiper-
bundle.min.css" rel="stylesheet">
```

```
<head>
  <meta charset="utf-8">
  <meta content="width=device-width, initial-
scale=1.0" name="viewport">

  <title>Population Forecasting Analysis</title>
  <meta content="" name="description">
  <meta content="" name="keywords">

  <!-- Favicons -->
  <link href="assets/img/favicon.png" rel="icon">
  <link href="assets/img/apple-touch-icon.png"
rel="apple-touch-icon">

  <!-- Google Fonts -->
  <link href="https://fonts.googleapis.com/css?
family=Open+Sans:300,300i,400,400i,
600,600i,700,700i|Jost:300,
300i,400,400i,500,500i,600,
600i,700,700i|Poppins:300,
300i,400,400i,500,500i,600,600i,700,700i"
rel="stylesheet">

  <!-- Vendor CSS Files -->
  <link href="assets/vendor/aos/aos.css"
rel="stylesheet">
  <link href="assets/vendor/bootstrap/
css/bootstrap.min.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap-
icons/bootstrap-icons.css" rel="stylesheet">
  <link href="assets/vendor/boxicons/
css/boxicons.min.css" rel="stylesheet">
  <link href="assets/vendor/glightbox/
css/glightbox.min.css" rel="stylesheet">
  <link href="assets/vendor/remixicon/
remixicon.css" rel="stylesheet">
  <link href="assets/vendor/swiper/swiper-
bundle.min.css" rel="stylesheet">

  <!-- Template Main CSS File -->
  <link href="assets/css/style.css"
rel="stylesheet">
```

```
  <!-- ================================
==========================
  * Template Name: Arsha
  * Updated: Mar 10 2023 with Bootstrap v5.2.3
  * Template URL: https://bootstrapmade.com/arsha-
free-bootstrap-html-template-corporate/
  * Author: BootstrapMade.com
  * License: https://bootstrapmade.com/license/
  ================================
========================== -->
</head>

<body>

  <!-- ======= Header ======= -->
  <header id="header" class="fixed-top ">
    <div class="container d-flex align-items-
center">

      <h1 class="logo me-auto"><a
href="index.html">population</a></h1>
      <!-- Uncomment below if you prefer to use an
image logo -->
      <!-- <a href="index.html" class="logo me-
auto"><img src="assets/img/logo.png" alt=""
class="img-fluid"></a>-->

      <nav id="navbar" class="navbar">
        <ul>
          <li><a class="nav-link scrollto active"
href="#hero">Home</a></li>
          <li><a class="nav-link scrollto"
href="#about">About</a></li>
          <li><a class="nav-link scrollto"
href="#services">Dashboard</a></li>
          <li><a class="nav-link   scrollto"
href="#portfolio">Story</a></li>
          <li><a class="nav-link scrollto"
href="#team">Team</a></li>
          <li class="dropdown"><a href="#">
```

```
href="#team">Team</a></li>
          <li class="dropdown"><a href="#">
<span>Drop Down</span> <i class="bi bi-chevron-
down"></i></a>
            <ul>
              <li><a href="#">Drop Down 1</a></li>
              <li class="dropdown"><a href="#">
<span>Deep Drop Down</span> <i class="bi bi-
chevron-right"></i></a>
                <ul>
                  <li><a href="#">Deep Drop Down
1</a></li>
                  <li><a href="#">Deep Drop Down
2</a></li>
                  <li><a href="#">Deep Drop Down
3</a></li>
                  <li><a href="#">Deep Drop Down
4</a></li>
                  <li><a href="#">Deep Drop Down
5</a></li>
                </ul>
              </li>
              <li><a href="#">Drop Down 2</a></li>
              <li><a href="#">Drop Down 3</a></li>
              <li><a href="#">Drop Down 4</a></li>
            </ul>
          </li>
          <li><a class="nav-link scrollto"
href="#contact">Contact</a></li>
          <li><a class="getstarted scrollto"
href="#about">Get Started</a></li>
        </ul>
        <i class="bi bi-list mobile-nav-toggle">
</i>
      </nav><!-- .navbar -->

    </div>
  </header><!-- End Header -->

  <!-- ======= Hero Section ======= -->
  <section id="hero" class="d-flex align-items-
center">
```

```
    <div class="container">
      <div class="row">
        <div class="col-lg-6 d-flex flex-column
justify-content-center pt-4 pt-lg-0 order-2 order-
lg-1" data-aos="fade-up" data-aos-delay="200">
          <h1>Population Forecasting Analysis</h1>
          <h2>We are team of talented designers
making websites with Bootstrap</h2>
          <div class="d-flex justify-content-
center justify-content-lg-start">
            <a href="#about" class="btn-get-
started scrollto">Get Started</a>
            <a href="https://www.youtube.com/
watch?v=jDDaplaOz7Q" class="glightbox btn-watch-
video"><i class="bi bi-play-circle"></i><span>Watc
h Video</span></a>
          </div>
        </div>
        <div class="col-lg-6 order-1 order-lg-2
hero-img" data-aos="zoom-in" data-aos-delay="200">
          <img src="assets/img/hero-img.png"
class="img-fluid animated" alt="">
        </div>
      </div>
    </div>

  </section><!-- End Hero -->

  <main id="main">

    <!-- ======= Clients Section ======= -->
    <section id="clients" class="clients section-
bg">
      <div class="container">

        <div class="row" data-aos="zoom-in">

          <div class="col-lg-2 col-md-4 col-6 d-
flex align-items-center justify-content-center">
            <img src="assets/img/clients/client-
1.png" class="img-fluid" alt="">
          </div>
```

```
          <div class="col-lg-2 col-md-4 col-6 d-
flex align-items-center justify-content-center">
            <img src="assets/img/clients/client-
2.png" class="img-fluid" alt="">
          </div>

          <div class="col-lg-2 col-md-4 col-6 d-
flex align-items-center justify-content-center">
            <img src="assets/img/clients/client-
3.png" class="img-fluid" alt="">
          </div>

          <div class="col-lg-2 col-md-4 col-6 d-
flex align-items-center justify-content-center">
            <img src="assets/img/clients/client-
4.png" class="img-fluid" alt="">
          </div>

          <div class="col-lg-2 col-md-4 col-6 d-
flex align-items-center justify-content-center">
            <img src="assets/img/clients/client-
5.png" class="img-fluid" alt="">
          </div>

          <div class="col-lg-2 col-md-4 col-6 d-
flex align-items-center justify-content-center">
            <img src="assets/img/clients/client-
6.png" class="img-fluid" alt="">
          </div>

        </div>

      </div>
    </section><!-- End Cliens Section -->

    <!-- ======= About Us Section ======= -->
    <section id="about" class="about">
      <div class="container" data-aos="fade-up">

        <div class="section-title">
          <h2>About Us</h2>
        </div>
```

```
          <div class="section-title">
            <h2>About Us</h2>
          </div>

          <div class="row content">
            <div class="col-lg-6">
              <p>
                Population Forecasting Analysis
method involves discovery of the factors that
influence present and past population increase and
decrease.On the basis of assumptions concerning
the future of these factors,and of other factors
that are just emerging in the community,
projections of fertility,mortality and migration
trends are made.
              </p>
              <a href="#" class="btn-learn-
more">Learn More</a>
            </div>
          </div>

        </div>
      </section><!-- End About Us Section -->

      <!-- ======= Why Us Section ======= -->
      <section id="why-us" class="why-us section-
bg">
        <div class="container-fluid" data-aos="fade-
up">

          <div class="row">

            <div class="col-lg-7 d-flex flex-column
justify-content-center align-items-stretch  order-
2 order-lg-1">

              <div class="content">
                <h3>Eum ipsam laborum deleniti
<strong>velit pariatur architecto aut
nihil</strong></h3>
                <p>
```

```
                Lorem ipsum dolor sit amet,
consectetur adipiscing elit, sed do eiusmod tempor
incididunt ut labore et dolore magna aliqua. Duis
aute irure dolor in reprehenderit
              </p>
            </div>

            <div class="accordion-list">
              <ul>
                <li>
                  <a data-bs-toggle="collapse"
class="collapse" data-bs-target="#accordion-list-
1"><span>01</span> Non consectetur a erat nam at
lectus urna duis? <i class="bx bx-chevron-down
icon-show"></i><i class="bx bx-chevron-up icon-
close"></i></a>
                  <div id="accordion-list-1"
class="collapse show" data-bs-parent=".accordion-
list">
                    <p>
                      Feugiat pretium nibh ipsum
consequat. Tempus iaculis urna id volutpat lacus
laoreet non curabitur gravida. Venenatis lectus
magna fringilla urna porttitor rhoncus dolor purus
non.
                    </p>
                  </div>
                </li>

                <li>
                  <a data-bs-toggle="collapse"
data-bs-target="#accordion-list-2"
class="collapsed"><span>02</span> Feugiat
scelerisque varius morbi enim nunc? <i class="bx
bx-chevron-down icon-show"></i><i class="bx bx-
chevron-up icon-close"></i></a>
                  <div id="accordion-list-2"
class="collapse" data-bs-parent=".accordion-list">
                    <p>
```

```
                    Dolor sit amet consectetur
adipiscing elit pellentesque habitant morbi. Id
interdum velit laoreet id donec ultrices.
Fringilla phasellus faucibus scelerisque eleifend
donec pretium. Est pellentesque elit ullamcorper
dignissim. Mauris ultrices eros in cursus turpis
massa tincidunt dui.
                  </p>
                </div>
              </li>

              <li>
                <a data-bs-toggle="collapse"
data-bs-target="#accordion-list-3"
class="collapsed"><span>03</span> Dolor sit amet
consectetur adipiscing elit? <i class="bx bx-
chevron-down icon-show"></i><i class="bx bx-
chevron-up icon-close"></i></a>
                <div id="accordion-list-3"
class="collapse" data-bs-parent=".accordion-list">
                  <p>
                    Eleifend mi in nulla posuere
sollicitudin aliquam ultrices sagittis orci.
Faucibus pulvinar elementum integer enim. Sem
nulla pharetra diam sit amet nisl suscipit. Rutrum
tellus pellentesque eu tincidunt. Lectus urna duis
convallis convallis tellus. Urna molestie at
elementum eu facilisis sed odio morbi quis
                  </p>
                </div>
              </li>

            </ul>
          </div>

        </div>

        <div class="col-lg-5 align-items-stretch
order-1 order-lg-2 img" style='background-image:
url("assets/img/why-us.png");' data-aos="zoom-in"
```

```
    </section><!-- End Why Us Section -->

    <!-- ======= Skills Section ======= -->
    <section id="skills" class="skills">
      <div class="container" data-aos="fade-up">

        <div class="row">
          <div class="col-lg-6 d-flex align-items-
center" data-aos="fade-right" data-aos-
delay="100">
            <img src="assets/img/skills.png"
class="img-fluid" alt="">
          </div>
          <div class="col-lg-6 pt-4 pt-lg-0
content" data-aos="fade-left" data-aos-
delay="100">
            <h3>Voluptatem dignissimos provident
quasi corporis voluptates</h3>
            <p class="fst-italic">
              Lorem ipsum dolor sit amet,
consectetur adipiscing elit, sed do eiusmod tempor
incididunt ut labore et dolore
              magna aliqua.
            </p>

            <div class="skills-content">

              <div class="progress">
                <span class="skill">HTML <i
class="val">100%</i></span>
                <div class="progress-bar-wrap">
                  <div class="progress-bar"
role="progressbar" aria-valuenow="100" aria-
valuemin="0" aria-valuemax="100"></div>
                </div>
              </div>

              <div class="progress">
                <span class="skill">CSS <i
class="val">90%</i></span>
```

```
                  <div class="progress-bar-wrap">
                    <div class="progress-bar"
role="progressbar" aria-valuenow="90" aria-
valuemin="0" aria-valuemax="100"></div>
                  </div>
                </div>

                <div class="progress">
                  <span class="skill">JavaScript <i
class="val">75%</i></span>
                  <div class="progress-bar-wrap">
                    <div class="progress-bar"
role="progressbar" aria-valuenow="75" aria-
valuemin="0" aria-valuemax="100"></div>
                  </div>
                </div>

                <div class="progress">
                  <span class="skill">Photoshop <i
class="val">55%</i></span>
                  <div class="progress-bar-wrap">
                    <div class="progress-bar"
role="progressbar" aria-valuenow="55" aria-
valuemin="0" aria-valuemax="100"></div>
                  </div>
                </div>

              </div>

            </div>
          </div>

        </div>
      </section><!-- End Skills Section -->

      <!-- ======= Services Section ======= -->
      <section id="services" class="services
section-bg">
        <div class="container" data-aos="fade-up">

          <div class="section-title">
            <h2>Dashboard</h2>
            </div>
```

```
            <div class='tableauPlaceholder'
id='viz1681203476907' style='position: relative'>
<noscript><a href='#'><img alt='Dashboard 3 '
src='https:&#47;&#47;public.
tableau.com&#47;static&#47;ima
ges&#47;FD&#47;FDCK6QZ5Y&#47;1_rss.png'
style='border: none' /></a></noscript><object
class='tableauViz'  style='display:none;'><param
name='host_url' value='https%3A%2F%2Fpublic.
tableau.com%2F' /> <param
name='embed_code_version' value='3' /> <param
name='path' value='shared&#47;FDCK6QZ5Y' /> <param
name='toolbar' value='yes' /><param
name='static_image' value='https:&#47;&#47;public.
tableau.com&#47;static&#47;ima
ges&#47;FD&#47;FDCK6QZ5Y&#47;1.png' /> <param
name='animate_transition' value='yes' /><param
name='display_static_image' value='yes' /><param
name='display_spinner' value='yes' /><param
name='display_overlay' value='yes' /><param
name='display_count' value='yes' /><param
name='language' value='en-US' /></object></div>
              <script type='text/javascript'>
              var divElement =
document.getElementById('viz1681203476907');
              var vizElement =
divElement.getElementsByTagName('object')[0];
                if ( divElement.offsetWidth > 800 )
{ vizElement.style.width='
1000px';vizElement.style.height='827px';} else if
( divElement.offsetWidth > 500 ) {
vizElement.style.width='
1000px';vizElement.style.height='827px';} else {
vizElement.style.width='100%';
vizElement.style.height='977px';}
    var scriptElement = document.createElement('
script');                    scriptElement.src =
'https://public.tableau.com/
javascripts/api/viz_v1.js';
```

```
 vizElement.parentNode.insertBefore(scriptElement,
vizElement);                    </script>


        </div>
      </section>
      <!-- End Cta Section -->

      <!-- ======= Portfolio Section ======= -->
      <section id="portfolio" class="portfolio">
        <div class="container" data-aos="fade-up">

          <div class="section-title">
            <h2>Story</h2>
            </div>

            <div class='tableauPlaceholder'
id='viz1681203956710' style='position: relative'>
<noscript><a href='#'><img alt='Story 1 '
src='https:&#47;&#47;public.
tableau.com&#47;static&#47;ima
ges&#47;Po&#47;PopulationForecastingAnalysis-
Story&#47;Story1&#47;1_rss.png' style='border:
none' /></a></noscript><object class='tableauViz'
 style='display:none;'><param name='host_url'
value='https%3A%2F%2Fpublic.tableau.com%2F' />
<param name='embed_code_version' value='3' />
<param name='site_root' value='' /><param
name='name' value='PopulationForecastingAnalysis-
Story&#47;Story1' /><param name='tabs' value='no'
/><param name='toolbar' value='yes' /><param
name='static_image' value='https:&#47;&#47;public.
tableau.com&#47;static&#47;ima
ges&#47;Po&#47;PopulationForecastingAnalysis-
Story&#47;Story1&#47;1.png' /> <param
name='animate_transition' value='yes' /><param
name='display_static_image' value='yes' /><param
name='display_spinner' value='yes' /><param
name='display_overlay' value='yes' /><param
name='display_count' value='yes' /><param
name='language' value='en-
```