

The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered in the middle of the slide.

***IMPACT OF URBANIZATION AND
INTENSIVE AGRICULTURE ON
WATER QUALITY***

WHAT IS URBANIZATION?

- IS THE INCREASING SHARE OF A NATION'S POPULATION LIVING IN URBAN AREAS (AND THUS A DECLINING SHARE LIVING IN RURAL AREAS). MOST URBANIZATION IS THE RESULT OF NET RURAL TO URBAN MIGRATION.
- A NATION'S URBAN POPULATION CAN GROW FROM NATURAL INCREASE (BIRTHS MINUS DEATHS), NET RURAL TO URBAN MIGRATION AND RECLASSIFICATION
- THE TERM URBANIZATION IS ALSO USED FOR THE EXPANSION OF URBAN LAND USES. THE BY WAY OF CONTRAST, MUCH OF THE EXPANSION OF URBAN LAND USE IS THE RESULT OF A SHIFT FROM DENSE TO MORE DISPERSED SETTLEMENT. IN EFFECT, THE TERM URBANIZATION IS BEING USED TO REFER TO TWO OPPOSING SPATIAL SHIFTS IN SETTLEMENT PATTERNS, LIKELY TO HAVE OPPOSING EFFECTS ON, FOR EXAMPLE, THE LAND AVAILABLE FOR AGRICULTURE.

URBANIZATION AND INTENSIVE AGRICULTURE

- IS THE PRACTICE OF CULTIVATING, PROCESSING, AND DISTRIBUTING FOOD IN OR AROUND A VILLAGE, TOWN, OR CITY, HENCE LEADING TO GROWING TO MEET THE NEEDS OF THE EVER-DEVELOPING URBAN LIFE . ACCORDING TO SHAMSHIRI ET AL. (2018) “A VARIETY OF SYSTEMS MAY FALL UNDER URBANIZATION AGRICULTURE CONCEPT IN DIFFERENT SCALE AND POSSESSION, RANGING FROM A PERSONAL OR LOCAL COMMUNITY GARDENS FOR SOCIAL AND SELF-SUFFICIENCY PURPOSES, TO COMPLICATED SYSTEMS WHICH INVOLVE INDOOR FOOD PRODUCTION WITH THE HELP OF ARTIFICIAL LIGHT OR INSIDE FACTORIES THAT ARE CAPABLE OF CONTROLLING THE CLIMATE TO PRODUCE SENSITIVE PLANTS.
- SINCE UA IS MOSTLY PRACTICED INDOORS, IT IS ALSO REFERRED AS VERTICAL FARMING (VF), INTEGRATED FARMING INSIDE BUILDINGS, AND Z-FARMING (WHICH STANDS FOR ZEROACREAGEFARMING)”. URBAN AGRICULTURE CAN ALSO INVOLVE ANIMAL HUSBANDRY ,AQUACULTURE, AGROFORESTRY, URBAN BEEKEEPING , AND HORTICULTURE. THESE ACTIVITIES OCCUR IN PERI-URBAN AREAS AS WELL, AND URBAN AGRICULTURE MAY HAVE DIFFERENT CHARACTERISTICS.

- URBAN AGRICULTURE CAN REFLECT VARYING LEVELS OF ECONOMIC AND SOCIAL DEVELOPMENT. IN THE GLOBAL NORTH, IT OFTEN TAKES THE FORM OF A SOCIAL MOVEMENT FOR SUSTAINABLE COMMUNITIES, WHERE ORGANIC GROWERS, 'FOODIES,' AND '[LOCAVORES](#)' FORM SOCIAL NETWORKS FOUNDED ON A SHARED ETHOS OF NATURE AND COMMUNITY HOLISM. THESE NETWORKS CAN EVOLVE WHEN RECEIVING FORMAL INSTITUTIONAL SUPPORT, BECOMING INTEGRATED INTO LOCAL TOWN PLANNING AS A 'TRANSITION TOWN' MOVEMENT FOR SUSTAINABLE URBAN DEVELOPMENT. IN THE DEVELOPING SOUTH, FOODSECURITY, NUTRITION, AND INCOME GENERATION ARE KEY MOTIVATIONS FOR THE PRACTICE. IN EITHER CASE, MORE DIRECT ACCESS TO FRESH VEGETABLES, FRUITS, AND MEAT PRODUCTS THROUGH URBAN AGRICULTURE CAN IMPROVE FOOD SECURITY AND FOODSAFETY

The background features a light gray gradient with several realistic water droplets of various sizes scattered in the corners. The droplets have highlights and shadows, giving them a three-dimensional appearance.

IMPACTS OF UA

CHEMICAL FERTILIZERS ARE USED EXTENSIVELY IN MODERN AGRICULTURE, IN ORDER TO IMPROVE YIELD AND PRODUCTIVITY OF AGRICULTURAL PRODUCTS. HOWEVER, NUTRIENT LEACHING FROM AGRICULTURAL SOIL INTO GROUNDWATER RESOURCES POSES A MAJOR ENVIRONMENTAL AND PUBLIC HEALTH CONCERN.

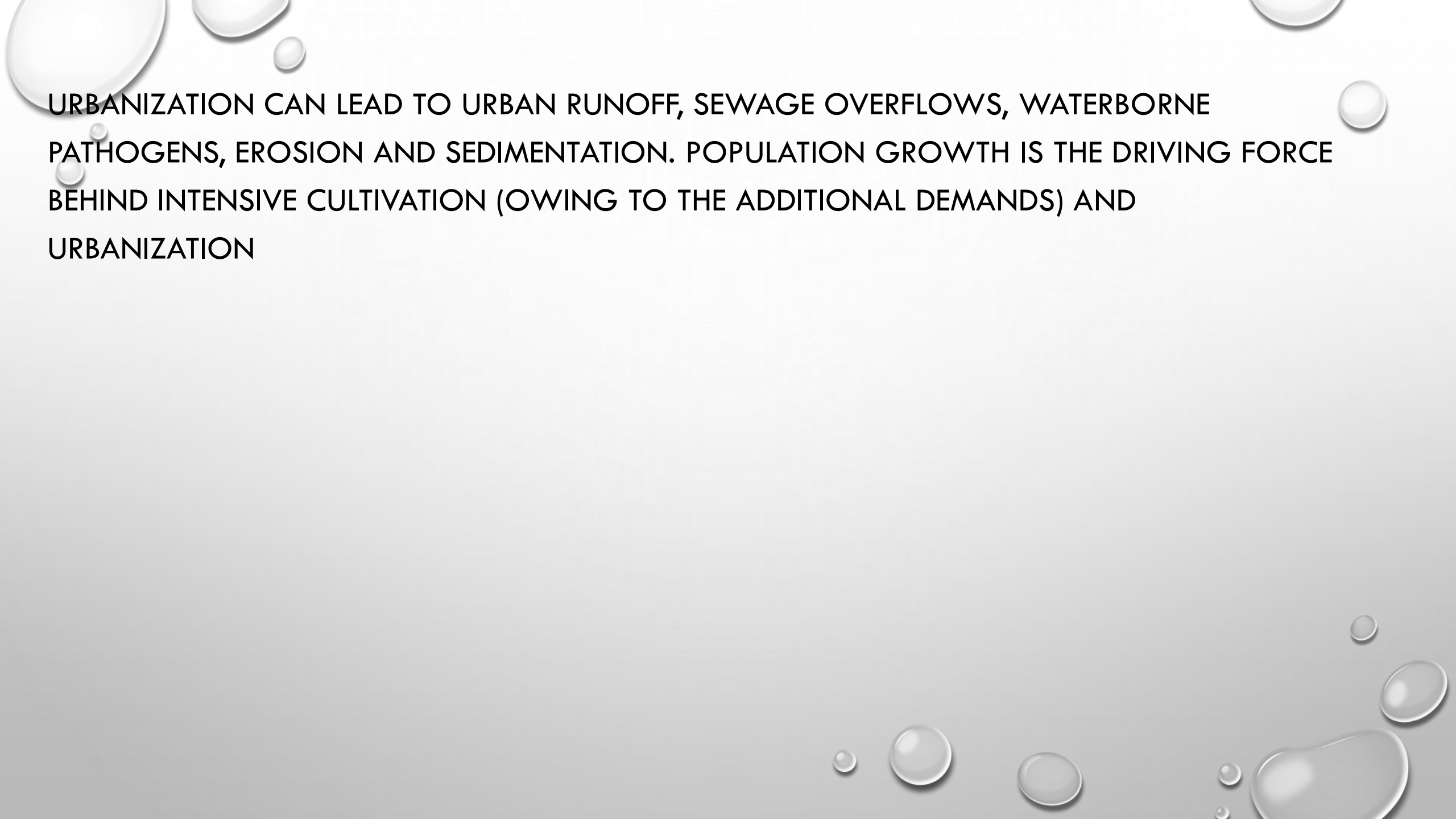
SUSTAINABILITY OF GLOBAL FOOD PRODUCTION IS HIGHLY DEPENDING ON THE QUALITY OF THE ENVIRONMENT. IN MANY PARTS OF THE AFRICAN CONTINENT INCREASE OF AGRICULTURAL PRODUCTION HEAVILY DEPEND ON INTENSIVE AGRICULTURAL PRACTICES WHICH ARE HAVING NEGATIVE IMPACT ON THE ENVIRONMENT. THE IMPACTS OF AGRICULTURAL PRACTICES ON SURFACE WATER QUALITY IS GIVEN SPECIAL ATTENTION CURRENTLY SINCE THE SAFE AND AMPLE SUPPLY OF FRESHWATER IS FUNDAMENTAL TO HUMANS AND FOR THE SUSTAINABILITY OF ECOSYSTEM FUNCTION. INTENSIVE AGRICULTURAL PRACTICES IN RIVER CATCHMENTS OFTEN POSE THREAT TO THE ECOLOGICAL INTEGRITY OF RIVER ECOSYSTEMS

WATER DEMAND WILL INCREASE AND AS A RESULT MORE WASTEWATER FROM URBAN AREAS WILL GENERATE AND ALSO RUNOFF AND GROUNDWATER RECHARGE FROM AGRICULTURAL FIELDS. THIS WILL IMPACT THE WATER AVAILABILITY AND QUALITY.

FOR AGRICULTURE, THE IMPACTS OF LONG TERM MONOCULTURE CONSIST OF SOIL DEPLETION, RUNOFF, EROSION, INCLUDING WIND EROSION AS WELL AS WATER & SOIL EROSION. WITHOUT PLANTING TREES AS A WINDBREAK THIS CONDITION BECOMES EXASPERATED, RESULTING POSSIBLY IN A DUST-BOWL EFFECT.

- POLLUTANTS FROM TRADITIONAL AGRICULTURAL PRACTICES INCLUDE PESTICIDE RUNOFF INTO GROUNDWATER SYSTEMS AND EVENTUALLY INTO WELLS AND AQUIFERS AND PESTICIDES IN THE AIR AS WELL, THIS DEADLY COMBINATION CAN AFFECT POLLINATORS, BIRDS, AND OTHER BENEFICIAL MICROBIALS; AND HERBICIDES WHICH CAN AFFECT NATIVE PLANT SPECIES THAT ARE TRADITIONALLY USEFUL IN MEDICINES, NOT TO MENTION WILD FOODS THAT PROVIDE FOOD FOR WILDLIFE.

- POPULATIONS AND URBANIZATION IS ANOTHER MATTER, BUT CAN BE EQUALLY AS DEVASTATING IF NOT CONTROLLED PROPERLY A CONDITION OF WHICH URBAN AREAS ARE BECOMING INCREASINGLY AWARE. SOME OF THE PROBLEMS ASSOCIATED WITH GRAY WATER FOR HOUSEHOLD USE INCLUDED PHOSPHATES WHICH DAMAGED THE ECOSYSTEM.
- TILLAGE OF LAND COUPLED WITH DEFORESTATION CHANGES THE INFILTRATION AND RUNOFF CHARACTERISTICS WHICH IN TURN AFFECT THE GROUNDWATER RECHARGE AND WATER YIELD. IN AREAS WHERE PRECIPITATION IS FEWER, THE IRRIGATION NEEDS CAN CREATE ADDITIONAL DEMAND FOR WATER. THE LEACH OUT MAY CONTAIN PESTICIDES, SALTS AND OTHER NUTRIENTS WHICH MAY FIND ITS WAY TO SURFACE AND GROUNDWATER SYSTEMS SUBSEQUENTLY TO THE FOOD CHAIN.



URBANIZATION CAN LEAD TO URBAN RUNOFF, SEWAGE OVERFLOWS, WATERBORNE PATHOGENS, EROSION AND SEDIMENTATION. POPULATION GROWTH IS THE DRIVING FORCE BEHIND INTENSIVE CULTIVATION (OWING TO THE ADDITIONAL DEMANDS) AND URBANIZATION

SOLUTIONS :

- EDUCATE THE URBAN FARMERS ON THE CONSEQUENCES AND ALSO PRACTICE MORE ON USE OF MULTI STOREY KITCHEN GARDENS, BALCONY FARMING
- EDUCATE ON SUSTAINABLE FARMING PRACTICES E.G ORGANIC FARMING AND PERMACULTURE AND CLIMATE SMART AGRICULTURE – IS THE USE OF WEATHER INFO , RISK MANAGEMENT DEPENDING ON WHETHER RAINFALL IS BELOW NORMAL AND VICE VERSA , SELECTION OF THE RIGHT SEEDS, SOIL AND WATER CONSERVATION, PROPER DRAINAGE SYSTEMS AND TIMELY OPERATIONS.

ORGANIC FARMING IS CONTROLLING PESTS USING PREDATORS, PLANT EXTRACTS, AND PERMACULTURE USE OF NATURAL METHODS EG ESTABLISHING FOOD FORESTS AND ORGANIC PRODUCTION

- ENCOURAGE USE OF GREEN HOUSE
- DISCOURAGE ENCROACHMENT OF HUMAN ACTIVITIES AS IT'S AFFECTING OUR ECOSYSTEM – HAVE POLICIES ON THIS ACTS
- PRACTICING ROOF WATER HARVESTING TO CONSERVE TAP WATER FOR CONSUMPTION

- DUE TO WATER SCARCITY, HARVESTING OF WATER , STORAGE , EFFICIENT WATER MANAGEMENT ESP DURING RAINING SEASONS FOR USE DURING DR SEASONS
- SUBSIDIZING DRIP KITS, DAM LINERS AND TANKS CAN GO A LONG WAY IN HELPING FARMERS ACCESS FOOD SECURITY

ASANTE!