

## **WORLD IN THE BALANCE: THE PEOPLE PARADOX**

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**NARRATOR:** In the elementary school of Oguchi, Japan, the silence is more striking than the voices of children. In a spacious classroom, commanding the undivided attention of his teacher, 11-year-old Daiki Sato sits alone. Since kindergarten, he's been the only student in his class, because of a startling decline in birth rates.

By the end of the century, Japan's population is expected to shrink by half, with one out of every three people retired. And Japan is not alone. Over the next 50 years, Europe is projected to lose 63 million people, while Russia shrinks almost 20 percent. As elders over 60 outnumber children under four, the economic and social changes will be wrenching.

**PAUL HEWITT** (Social Security Administration): We're talking about a society in the future that's never existed in the past, one that is literally an "old folk's home." So we know that the decline of many industrialized countries is already written in stone.

**NARRATOR:** Yet, rising longevity is not just transforming the industrialized world. More children in developing countries are surviving than ever before. Today, the largest generation of youth in history is entering their reproductive years, igniting an explosion of births. As global population climbs from over six to nine billion, the social and environmental strains will be enormous.

Our world is now careening in two completely different directions as "youthful" nations reel from rising numbers while "old" ones grapple with decline.

**DAVID BLOOM** (Harvard School of Public Health): You see a huge generation gap across countries emerging, that's going to translate into a more polarized world society, and those disparities are potentially very destabilizing.

**NARRATOR:** Join us for a journey across four continents as we peer into the demographic divide reshaping our world and confronting us with stark choices for the future. *World in the Balance: The People Paradox*, up next on NOVA.

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Thank you.

**NARRATOR:** Deep in the heart of India, towers the Taj Mahal, a lavish mausoleum built to honor a queen who died giving birth to her 14<sup>th</sup> child. It's a haunting symbol for a country that will soon surpass China as the world's most populous nation, with over a billion and a half people. Beyond its walls, lies the urban sprawl of India's fastest growing state, Uttar Pradesh, with more people than all but four nations in the world. Its population of 177 million is crammed into an area the size of Colorado. Every three years, its numbers swell by another 10 million.

Yet the rapid growth here masks a stunning success across India, where fertility has plummeted from an average of six children per woman to three. This trend offers hope that India's population might stop growing this century. But the outcome depends on whether the northern states can repeat the success of the south where birth rates are almost as low as Europe's.

**CARL HAUB** (Population Reference Bureau): And the south of India, of course, is very educated. However, the opposite is the case in the north, and that's where India's demographic future really lies. In a state like Uttar Pradesh, where women average about five children each in their lifetime, and they have very high levels of illiteracy, this is where the real battle for India's future is going to be fought.

**NARRATOR:** If this battle isn't won within two decades, India's population, instead of stabilizing, could nearly double by 2050.

With U.S support, Dr. Ravi Anand has organized a network of doctors across Uttar Pradesh to offer health care and family planning.

**DR. RAVI ANAND** (Centre for Development and Population Activities): I would say this is our window of opportunity. If we do not take all the measures that we can, in every possible manner, to check the population now, then India will never be able to tackle this problem.

**NARRATOR:** Yet Ravi is well aware that if progress is going to be made, the lives of women here must improve.

In a nearby slum, she checks on a 30-year-old mother named Gooday, who almost died delivering her eighth child. She was rushed to the hospital unconscious, after three days of obstructed labor.

**DR. RAVI ANAND:** So, now tell me, I hear you had great problems with this birth?

**GOODAY** (Ravi Anand's patient): Terrible problems. The midwife that had delivered my other babies came, but when she touched my belly she said, "This baby's life is in danger. You must find the money to get to the hospital."

**NARRATOR:** After delivering a baby girl, Gooday begged doctors to be sterilized, but she was overruled by her mother-in-law and husband.

**DR. RAVI ANAND:** She says she's petrified of another pregnancy and childbirth, and she doesn't want to have another baby. But she's the one who's least involved in this decision making. And that is why we counsel the husband and the mother-in-law, because we call them the gatekeepers to the health services.

So, I hear you want a second son?

**GOODAY'S HUSBAND:** I need at least one more.

**DR. RAVI ANAND:** You have only one son? And isn't one son good enough for you?

**GOODAY'S MOTHER-IN-LAW:** He's 40 years old, and he is the only son left alive.

**DR. RAVI ANAND:** And daughters?

**GOODAY'S MOTHER-IN-LAW:** I have three daughters, but they've gone to live with their husband's families.

**DR. RAVI ANAND:** Listen, today, one son is just as much as you may need.

One of the major reasons for the family size to be really large in northern India is the son preference, because it's the son who stays with the family, and he's expected to look after his old parents. And girls are always considered as, "somebody else's asset, not mine."

**ASHISH BOSE** (Institute of Economic Growth): But the point is the strategy of survival demands that you must have one or two sons, otherwise you will be left high and dry, not only in the old age, throughout your life.

**NARRATOR:** Having a second son raises the odds for Gooday that at least one boy will survive, especially since one in 10 children in Uttar Pradesh dies before age five. Gooday has lost three infants.

Ravi urges her to bring her children to the clinic for vaccinations. If the family trusts their son will survive, the pressure to bear another may ease.

**SAROJ PACHURI** (Population Council): Women in India really don't have control over their reproductive lives because all sexual reproductive health decisions are essentially made by men. And so you can't deal with an issue like population by itself. You have to look at the issue of infant mortality, literacy, or women's status, because it's all very

interlinked. This is a patriarchal society. And I think gender lies at the heart of the problem, really.

**NARRATOR:** On the edge of the Deccan plains, barefoot children walk towards their school in the rural village of Saswad. The daily rhythm of life here masks an unusual event unfolding in the heart of the village. Newly married couples play games to get to know each other as they wait to have their wedding portraits taken. The gathering has been organized by social worker Manisha Gupta to help young men and women bridge India's stark gender divide.

**MANISHA GUPTA** (MASUM - Forum for Protection of Human Rights): In a traditional Indian society, 95 percent of marriages still are arranged marriages. And most often than not, the bride and the groom are strangers to each other. And one would say that there's a 50 percent chance of things going wrong in a rural marriage where it's arranged, and she's barely 15 or 16, and he's not much older. And we're talking of, really, adolescents, who are building a life and having children. It's not an easy job.

**NARRATOR:** Social taboos pushed aside, girl and boys in separate groups hear frank talk about sex and how to use birth control.

The stakes are enormous. The age structure of India's population resembles a pyramid, with vast numbers of youth at its base. Half the country, mirroring the world at large, is under 25 and reaching reproductive age. If couples in this generation have only two children, in effect replacing themselves, population growth will soon halt.

Yet for Manisha, it's far from clear if India's youth will follow this radical trend and throw off the shackles of tradition.

As they pose for their portraits, she asks them how many children they want, if the gender matters, and how they feel about birth control.

**MANISHA GUPTA:** A lot of the couples said that they'd be happy with two children. And we said, "What gender?" And they said it doesn't matter. It's very nice of them to say it. Ten years ago our people wouldn't have even said it. But I'm not really sure what would happen in the household if there were just two daughters.

**NARRATOR:** Daughters are seen as an economic liability because parents must provide a dowry of cash or gifts to marry them off. A common Hindu wedding blessing prays that a wife will bear eight sons, but if she doesn't have any, there could be a price to pay. And that's why Manisha tries to intervene early.

The most shocking proof of what can go wrong are the brides who've been doused in kerosene and set ablaze by angry in-laws or husbands. An estimated 25,000 women are killed or maimed each year over dowry and domestic disputes or even their failure to produce a son.

**MANISHA GUPTA:** Bride burning is common in India. And since women are so dispensable, and these young, little girls, you know, between the ages of 15 to 24 are the most vulnerable, girls will get burned, they will get poisoned. And so, therefore, a girl in the husband's house, at least for the first 10 or 15 years, always walks on a tightrope.

**NARRATOR:** Gender discrimination takes place even among the wealthy. Upper class parents, committed to a two-child family, have sonograms to make sure that they've conceived a son. Although this doctor refuses to reveal a fetus's sex, not everyone is as ethical. Millions of females are aborted, leaving India with 35 million fewer women than men.

**MANISHA GUPTA:** There was an article saying that "better dead than burnt," meaning that it's better that you have sex determination rather than be burned in your in-laws' household. And the newspaper asked me to write a rejoinder, and I wrote a rejoinder saying, "neither dead nor burnt."

**CARL HAUB:** India wants to reduce population growth, but it certainly doesn't want to reduce it through sex-selective abortion. In fact, it is actually illegal now to test to see what the gender of a fetus is. But I think the single most important thing India can do today, demographically, is to somehow make the birth of a girl child as welcome as the birth of a boy child, because the goal of most developing countries is to reach this magical two-child family.

**NARRATOR:** Abidi Shah, a social worker, has seen that when women have greater access to education and job training, their status rises. Sixteen years ago, she visited a village on the outskirts of New Delhi. Dismayed by the plight of young girls there, she decided to act.

**ABIDI SHAH (PRERANA - Better Life Program):** There wasn't any sense among the girls of the adolescence, because they had lost their childhood already. They had to look after their younger brother and sister. They had to cook the food. They had to clean the house. They had to fetch the drinking water. No education for them, no food for them, no clothing for them.

**NARRATOR:** First Abidi had to convince a skeptical community to let her teach vocational and health classes to adolescent girls. Next, she had to show the girls themselves how education could improve their lives.

**ABIDI SHAH:** I just said, "Do you want same life as you are living here?" They said, "No, I want better life." "What sort of life do you want?" "The life I see on the TV. The life you are living." So I said, "Then what will you do?" "We can't do anything. That's

our luck, that's our destiny." I said, "No. This is not your destiny. You can change your life."

**NARRATOR:** One young woman who attended the program was Bimla. At age 13, her father had arranged her marriage and forced her to drop out of school.

**BIMLA:** I already had two daughters when Abidi arrived at our house. She saw that I was hungry and exhausted, and she asked me, "Why don't you use birth control?" I didn't know anything about it. But I knew I didn't want any more children.

**NARRATOR:** Bimla was just the kind of girl Abidi wanted to reach. She told Bimla that she could legally use the pill, even without her family's permission.

**BIMLA:** I was talking with my friend, and my mother-in-law was listening from behind the door. As soon as she left, my mother-in-law started yelling, "You must have a son. Stop taking the pills." Although she tried to beat me into submission, I was sure I didn't want any more children. I could see that large families were often poorer. Their children didn't have clothes to wear, or food to eat...that they played in dirt and didn't get an education.

**NARRATOR:** With help from Abidi, Bimla learned tailoring. Soon she had enough money help her husband buy a new house and send their children to school.

**GEETA RAO GUPTA** (International Center for Research on Women): The reality, in India, is that many, many women are very empowered, but the majority are disempowered. So when women want to change the way their roles are defined, they cannot do that if they're economically vulnerable and dependent, because the price then is that if you are left destitute, if you're abandoned, if you're thrown out of the house, you have no way to survive if you have no income. So I strongly believe that one way forward, to increase the momentum of social and cultural change, is to allow women to have employment opportunities.

**NARRATOR:** Yet these opportunities may be hard to come by, even as change sweeps across India. To keep pace with its growing population, the country must create six million new jobs a year. But even its dazzling economic growth of eight percent is not enough to prevent unemployment, already widespread, from rising. And a new problem is looming as population pressures confront a vast number of towns and villages with chronic water shortages.

**LESTER BROWN** (Earth Policy Institute): In India, water tables are now falling in most states, including the Punjab, which is the bread basket of India. And this is making it more difficult to expand food production at a time when the population is projected to grow by another half billion by 2050.

**ALLEN HAMMOND** (World Resources Institute): India faces really huge environmental problems from rapid population growth, and it might have a hard time growing enough

food for itself. On the other hand, it's becoming a center of software, so if it makes a transition to becoming more of a high tech, knowledge-based society, then it probably could feed itself. It has huge numbers of very smart, well educated people.

**ASHISH BOSE:** So we have got such a large number of intellectuals in every field that you cannot write off India and say, "Oh, population growth will finish this country. We'll be doomed. There'll be no drinking water, no housing, no nothing, no jobs." Absolutely unreal, unscientific, it is drama.

**NARRATOR:** India is poised on a knife edge. Headed in the right direction, it will still take years to reach the coveted two-child family. And what if the average family size turns out to be slightly more?

**CARL HAUB:** Suppose in India they really did achieve two children per couple in, let's say, 15 years. Then they would rise to about 1.6 billion by 2050. But the key is, if couples have, on average, about two and a half children, India would get its second billion by the middle of this century.

**NARRATOR:** And the same is true for the world. If global fertility stays even slightly above this magical two-child number, by mid-century our population could nearly double, from six to 11 billion.

**DAVID BLOOM:** We're dealing with unprecedented numbers, in terms of their magnitude. The result could be huge rates of unemployment, great political instability, strife, and a complete unraveling of economy and society. And human ingenuity may well find a way to deal with these numbers—it has in the past—human ingenuity is wonderful, but it's also, like demographics, highly uncertain.

**NARRATOR:** Around the world, in Japan, the population is careening in the opposite direction of India's. 300 children once studied here, in the elementary school of Oguchi.. But once this lone fifth grader graduates, no new students will fill his place, because of a startling decline in birth rates.

**BEN WATTENBERG** (American Enterprise Institute): Never before in human history has fertility fallen so far, so fast, so deep and so unexpectedly. And no one should doubt that it is a revolutionary change.

**PAUL HEWITT:** If you go back and you look at the 1960s, there are all these horrendous titles of books, like *The Population Bomb*, but many more. And you find out that the primary source of concern in intellectual circles about population was, and in some places continues to be, the population explosion. And in all of the industrial countries, our overreaction, potentially, to this concern now has left us with just the opposite problem.

**NARRATOR:** With crowded streets and packed trains, Japan hardly seems to be in need of any more people. But if fertility stays at its low rate of 1.3 children per woman, by the end of the century, Japan's population of 126 million, will shrink in half.

The impending decline has become a national crisis, with blame targeted against the soaring numbers of unmarried youth. Called "parasite singles," they live with their parents while pursuing careers and other interests besides marriage.

**MERRY WHITE** (Anthropologist, Boston University): Japanese women in the '70s felt that 25 was your last chance to marry. If you were 26, you'd be a Christmas cake, because December 25 is the last day when a Christmas cake can be sold, and after that, you're leftovers. Now, a woman will often delay marriage until the last possible time before she can have her first child. This is now seen by some as a kind of female selfishness. But I think women in general are trying to do different things with their lives.

**NARRATOR:** Tomoko Omuro is a leading television journalist. At age 29, she became one of Japan's first female anchors.

**TOMOKO OMURA** (Television Executive): I think there are two doors for women. One door has a ladder for promotion, and the other one doesn't really have anything, and you just stay on the same level forever. And lots of women end up taking copies and serving tea. And I didn't want to have that kind of work, and I was looking for a good lifetime career.

**NARRATOR:** By age 37, Tomoko had become an editor-in-chief, supervising a team of producers and reporters. Her husband of nine years often asked her when they might start a family.

**TOMOKO OMURA:** Many companies in Japan still consider women with children as burden. So, I was so scared to have a baby, because I thought I would just drop out of the race. So, I kept on just postponing it. But when I turned 37 or so, I started feeling like something was missing in my life.

**NARRATOR:** At 41, Tomoko gave birth to their daughter, Asumi. Her initial ambivalence about motherhood is becoming increasingly common.

**WOMAN #1:** When I get married, it might be better to have kids, but I don't worry about it.

**WOMAN #2:** If I get married, I might think about having kids in my 30s.

**WOMAN #3:** If I am working, I can live on my own. In the older times, marrying, for Japanese women, was like a dependency. It's not like that any more.

**NARRATOR:** But besides wanting careers, there's another crucial reason that more women are working.



**MERRY WHITE:** In Japan, the economy since '89, '90 has been in a recession. Japanese women often have to work even to keep their families middle class. One income doesn't work for many families, especially in terms of the costs of children's education. It's an exceptionally expensive task to raise a successful child in Japan.

**NARRATOR:** There's a saying that Japanese men live at the office and commute to home, often catching the last train, at midnight. Now as more women join their husbands at work, they're discovering that the long hours required by most employers make having a family, certainly a large one, difficult.

For Tomoko, it was a tough challenge to find a daycare center that could look after Asumi for 13 hours a day, given the unpredictable hours of the newsroom. For six months, her mother moved to Tokyo to help. Now that she's gone, Tomoko agonizes at the thought that her daughter may be asleep by the time she's picked up.

**TOMOKO OMURA:** If you are an executive, you can't say, "Well, it's five o'clock, I'm leaving." If there's work, you have to complete your work. Right now I'm trying to figure out how to work with my full ability, and at the same time just save the time for my baby. My husband, I know he's busy, maybe busier than I am. Japanese people tend to work for long hours and unless we change that kind of idea, the declining birth rate is going to continue.

**NARRATOR:** Three hours from Tokyo, near the elementary school of Oguchi, one can glimpse the flip side of the country's falling birthrates. By 2050, one in three Japanese will be over the age of 65. In Oguchi, this is already the reality.

Mr. and Mrs. Ohno's house was once packed with three generations. But since their parents died and their children left for careers in the city, life for this 80-year-old couple has become lonelier.

**MRS. OHNO:** In the old times, it was normal for a daughter-in-law to look after her in-laws. So that's why I took care of my father-in-law until he died, at 83.

**MR. OHNO:** Our children have grown up and gone to live in Tokyo. They've all gotten married and have to worry about sending their children to school. That is their place now. They have to work, and they can't afford to come back here and look after us.

**MERRY WHITE:** The governmental query now is, "Who cares for our elders?" In essence, though, the government really feels that families are responsible and society isn't. And ultimately, when you say "family," you mean "women."

**NARRATOR:** But with more women working, there's often no one at home to care for the elderly. The stress on families is mounting, especially since neither the government nor private industry has been able to fill the gap. If the Ohnos should get sick, the only nearby nursing home is full.

To ensure their security in old age, the Ohnos had counted on profits from their forest, but as globalization brought in cheap timber from the Philippines, they were unable to sell their trees.

**MR. OHNO:** I can't depend on my children, so I don't know what to do. It would be great if the government builds lots of nursing homes and takes care of us, but I don't have high expectations. Staying healthy is the best thing, but we can't stay healthy forever.

**NARRATOR:** Japan's population pyramid looks like India's turned upside down, reflecting how the elderly dramatically outnumber the young. The Japanese now live longer than anyone else, with men averaging 78 years and women 84.

**JOEL COHEN** (Rockefeller & Columbia Universities): And with increasing education, we find that disability rates among the elderly have been dropping steadily. That is fabulously good news. It's a revolution in human demography. It means that people of 60 have the function of people of 40 at the beginning of the century.

**NARRATOR:** But this good news is tempered by a sobering reality in aging countries. There will soon not be enough young people entering the work force to support those retiring. Not only will there be fewer workers, but as the population declines, there will be fewer consumers.

**PAUL HEWITT:** It's going to be extremely hard for businesses to make a profit. And when businesses don't make a profit, they don't pay taxes. And when taxes don't get paid, you can't support the welfare state. And so the older countries face such a huge problem financially that they really could undermine the global economy.

**NARRATOR:** To keep its workforce from shrinking, an aging country like Japan would need to take in 600,000 immigrants a year. Yet the Japanese resist, obsessed by preserving their own ethnicity. In stark contrast, America's workforce continues to grow as a result of immigration.

**BEN WATTENBERG:** American fertility has been below replacement for about 35 years, but just barely below. But we take in about a million immigrants a year. And in the next 50 years, they and their children are going to help America grow by about a 100 million people, so we will be the only one of the modern countries that will be growing, and growing substantially.

**NARRATOR:** The United States is now the third most populous nation, and will remain so for the next 50 years, as our numbers climb from around 300 to 400 million people. Economically, this growth keeps us vibrant. Yet our productive economy also uses more resources than any other nation and generates one quarter of the greenhouse gases contributing to global warming. In fact an American child will consume and pollute more over a lifetime than 30 children born in India.

Although population growth is delaying aging in the U.S., our ranks of seniors will also increase as the "baby boom" generation, one in four Americans, retires.

**PAUL HEWITT:** No other country will see as large a percentage increase in the elder population as the United States will, because our baby boom was larger than anybody else's. And yet we will continue to have lots and lots of young people to support them —not enough to keep Social Security solvent, but certainly enough to make us a "younger" country compared to the other developed countries.

**NARRATOR:** Across the industrialized world, the average family size is now at or below two children. This stunning change has slowed population growth, yet it also signals the advent of global aging. Confronted by the prospect of shrinking populations, many countries now encourage couples to have more children. Ironically, they're finding that it maybe easier to cut fertility than it is to raise it.

A startling demographic divide now confronts us as "older" societies shrink and age, while "youthful" ones reel from rapid growth. Nowhere is the contrast starker than in sub-Saharan Africa. With families averaging around six children each, it's one of the fastest growing regions in the world, despite high death rates from AIDS.

**DAVID BLOOM:** AIDS mortality is having a huge effect on population size. Nevertheless, the age structure in sub-Saharan Africa is so young that...there will be so many people that still need to pass thorough their reproductive ages, that sub-Saharan Africa, even if it put the brakes absolutely, today, on fertility rates, its population would nearly double over this century.

**NARRATOR:** In 1950, sub-Saharan Africa had one third as many people as Europe. By 2050, this African population will be triple the size of Europe's.

**THORAYA OBAID** (United Nations Population Fund): Rapid population growth poses a real challenge to nations. It taxes their educational system, their infrastructures, their health system, so, as a whole, it becomes a heavy burden on an economy and a governmental system that is not strong enough.

**PAUL HEWITT:** And what does it mean for these countries? It means falling per capita incomes, it means deteriorating social services, and it means conflict. And these will create tremendous pressures to emigrate.

**NARRATOR:** Africa's population pressures will not just create economic refugees, but environmental ones as well. To meet rising demands for food, fuel and shelter, the continent's forests are disappearing at the fastest rate in the world. As countries struggle to obtain a decent standard of living, natural environments are increasingly strained. The degradation not only threatens Africa's unique wildlife, but creates hardships for people who live off the land.

**ALLEN HAMMOND:** And roughly a third of the people in the world still earn their living not on a job, but by growing things or catching them, or by picking them up off the ground. So if those ecosystems go down, those people are in very bad shape. And so that's the real risk, is that we're going to degrade ecosystems past the point where they can sustain life as we know it.

**NARRATOR:** Many African states have now embraced family planning. One of the oldest and most successful programs is in Kenya. In the '70s and '80s, this east African nation was the poster child for runaway growth. But two decades of family planning cut fertility from around seven to four children per woman.

**JOEL COHEN:** The number of children per woman has dropped dramatically, partly as a result of their individual choices, and partly because people have thought to provide reproductive health services to make it possible for them.

**NARRATOR:** According to demographic models, Kenya's falling fertility places it on the threshold of a profound transition.

All countries start in stage one, where high death rates from disease make high birth rates a necessity to keep a population from being decimated.

**LESTER BROWN:** But then, as modernization begins, the death rate falls but the birth rate does not. And so you have a large excess of births over deaths, and the so-called "population explosion."

**NARRATOR:** The challenge for every country is to pass rapidly through this second stage, and bring birth rates back into balance with death rates, allowing the population to stabilize.

**LESTER BROWN:** Because if countries can't get through that stage quickly, then the pressures of population growth may begin to undermine their prospects of breaking out. And if they don't break out, then the chances are that, eventually, things will start breaking down.

**NARRATOR:** Just as Kenya stands ready to reap the benefits of falling birth rates, the country is facing a stunning demographic reversal. For the first time in modern history, death rates are rising not falling. Six to nine percent of all Kenyans are infected with HIV-AIDS, causing life expectancy to plummet from 65 to 49 years. In Kenya, AIDS and population growth have become tragically linked.

Nowhere is this more evident than in the slums of Nairobi. Here, 21-year-old Florence Akinyi lives with her relatives in a one-room corrugated shack. What's surprising about her family is that all six members are orphans. At 16, Florence was thrust into taking care of her four younger siblings after their parents died of AIDS. Then the disease killed her sister, and Florence took in her 3-year-old nephew.

**FLORENCE AKINYI:** In fact, at times I always feel that it is a lot of burden, but because I knew there is no one to take care of them, I have just to do the duty now.

**NARRATOR:** Florence dropped out of school and searched for ways to support her family. But with few skills, her options were bleak.

**PAMELA ONDUSO** (Pathfinder International): What happens with these young women when they are forced to drop out of school, very often with very basic elementary education, they wind up on the streets. And they sell their bodies in order to fend for themselves. It is not uncommon to find that young women have had sex with older men for something as simple as meal, for something as simple as a bag of what we call chips.

**FLORENCE AKINYI:** I always feel so bad because in order to get money, from this, that is, you have to sleep with them, and they pay you more when you don't use the condom. And I needed money to survive.

**NARRATOR:** Eventually, Florence had to break the news to her siblings that she, too, was infected with the deadly HIV virus.

With treatment beyond her family's means, her plight echoes a death sentence ringing across sub-Saharan Africa. Adults between the ages of 20 and 60 are being wiped out, contorting the population pyramids of countries ravaged by AIDS into a haunting shape, with large numbers of children at the base, disappearing adults in the middle, and the few surviving seniors on top.

**DAVID BLOOM:** AIDS is cutting a huge swath through sub-Saharan Africa's strongest resources, its people, its working-age people. And that is imposing a huge burden in those countries. There are currently 11 million orphans in sub-Saharan Africa. Never before in history have we seen such a colossal burden as the number of orphans that will overwhelm the capacity of the usual social institutions that we have to deal with them.

**JEFFREY SACHS** (The Earth Institute at Columbia University): Africa is living in an utter catastrophe right now: millions and millions of people dying of preventable and treatable disease, millions of children becoming orphaned. Impoverished people can't face these challenges on their own.

**NARRATOR:** Today the epidemic is spreading fastest among women. In fact, an African woman's greatest chance for getting infected is within marriage where condoms are rarely used when families are hoping for children.

**ZEDA ROSENBERG** (International Partnership for Microbicides): Right now, a woman has to make a choice between having a child or putting herself at risk of HIV infection. And because of that, it is clear that a prevention strategy for them is crucial.

**NARRATOR:** There may soon be a breakthrough that will save women's lives. At the Population Council in New York City, scientists have discovered compounds that prevent the HIV virus from infecting human cells. Called microbicides, the hope is that they will chemically block or kill the virus during intercourse. The goal is to develop a vaginal gel that can protect women from disease if their partners fail to wear a condom.

**ZEDA ROSENBERG:** Some of these products may also have the ability to be contraceptive. But I think the main issue is that a woman has control over its use. She can decide when to use it.

**GEETA RAO GUPTA:** As we've seen in the family planning world, it is women who primarily take responsibility for protection, and if microbicides were actually then made available to women—even if they were 60 percent efficacious, not a hundred percent efficacious, even 60 percent efficacious—they could avert millions of infections.

**NARRATOR:** In several sub-Saharan African countries AIDS has reversed population growth. But in most, births far exceed deaths because only 18 percent of women here use birth control, in contrast to 60 percent of women worldwide.

Although more young people than ever will need family planning, funding has not kept pace. To complicate matters, the United States has blocked support to clinics offering abortion related care or counseling, even if U.S. funds are not used for these services. As a result, many have closed.

**THORAYA OBAID:** And it is a tragedy because birth rates are not just coming down just on their own, they're coming down because women are accessing family planning services. And when women can use contraception, they do not need to have abortions.

**NARRATOR:** The toll of unwanted pregnancy can be seen in the wards of Kenyatta National Hospital. Half of all adolescent girls in the country bear children by age 19. Many don't have the means to care for their babies and attempt illegal abortions.

**PAMELA ONDUSO:** We've heard of young women using coat hangers, knitting needles, detergent, overdosing on anti-malarial medication. By the time the young women show up at a public health facility, very often they're bleeding, they're septic, and they're traumatized.

**NARRATOR:** But the doctors here stress that there's an obvious solution to this problem.

**ROSEMARY MUGANDA** (Center for the Study of Adolescence): Let's look at adolescent pregnancy, let's look at abortion, and let's look at AIDS. The reason why we say this is the common denominator there is unsafe sex. And this sexual activity is occurring in the absence of accurate and reliable information, and in the absence of services that would enable them deal with the consequences.

**PAMELA ONDUSO:** And we know that there is an unmet need for family planning, and that this will only grow. Add to this that you now have more and more young people entering their reproductive years, and you can see that we're sitting on a time bomb.

**NARRATOR:** In contrast to most African nations, Kenya has started its demographic transition. Its fertility rates have fallen to around four children per woman, although not yet as low as India's average of three. With fewer babies being born, a changing age structure has opened up a rare window of opportunity for both countries.

**DAVID BLOOM:** India and Kenya have a huge population that's just getting ready to enter the labor force, the prime working years, the prime reproductive years. If India and Kenya can keep fertility down, those resources that would have otherwise gone to children can be devoted to building up the productive capacity of the economy.

**NARRATOR:** This strategy transformed the once poor nations of South Korea, Taiwan, Singapore and Hong Kong. As fertility fell, these governments took money once spent on children and created jobs for young adults entering the work force. The economic gains of these "Asian Tigers" stunned the world.

**DAVID BLOOM:** Economic growth in East Asia was not miraculous at all. It was, fundamentally, a demographic phenomenon, and it's a demographic phenomenon that can be repeated in other countries like India and Kenya. If they keep fertility down and invest in their young working age people, India and Kenya have an opportunity to escape the poverty traps that have ensnared them for centuries.

**NARRATOR:** It took until 1800 for global population to reach its first billion. In two centuries, the numbers increased six-fold. Our world is now headed towards a day of reckoning. If fertility drops just below two children, by mid-century, global population could stabilize at around nine billion people.

**ALLEN HAMMOND:** The key is the education and, really, the liberation of women. When women have more control over their lives, then they'll have the number of children they want. And all the evidence is that women want fewer children.

**DAVID BLOOM:** Nevertheless, if women have even, on average, half a child more than our expectation, population could nearly double over the next 50 years. And that would involve an increase of over five billion individuals, which is historically absolutely unprecedented. It took us over 200 years to add the last five billion people on the earth. And that could happen again, in less than 50 years, going forward.

**NARRATOR:** With projections uncertain, what will the demands for energy, food and water be in the future? How will the other species with whom we share the planet fare? The next few decades will be a critical time to ensure the trend to smaller families and plan realistically for global aging.

**JEFFREY SACHS:** Yes, there are huge challenges, but the biggest risk we face of all is inaction. We are not spectators to a world coming apart at the seams. If we mobilize our skills and our incomes and our wealth, even to a modest extent, we can help shift the world onto a path that is one of shared prosperity, that is one of environmental sustainability. In the end, the choice is ours.

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