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QUESTIONS AND ANSWERS ON BIKINI

Attached for your information are a number of questions and answers on Bikini prepared for possible use after announcement of the decision respecting the return of the Bikinians to their homeland.

The questions and answers have the approval of the Divisions of Biology and Medicine and Operational Safety.

(signed) Edwin E. Stokely for

John A. Harris, Director
Division of Public Information

Attachment

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BIKINI Q'S AND A'S

1. Q. WHERE IS BIKINI?

A. Bikini is an atoll containing 26 islands surrounding a fresh water lagoon, located approximately 11 degrees north of the equator on the northwestern fringe of the Marshall Islands in the Central Pacific. Bikini atoll is about 25 miles long and 15 miles wide and contains a total land area of 2.32 square miles.

2. Q. WHY WAS BIKINI CHOSEN AS A TEST SITE?

A. Because it was far from densely populated areas and the prevailing winds could blow the fallout from the tests into the vast uninhabited stretches of the Central Pacific.

3. Q. WHERE DID THE BIKINIANS LIVE BEFORE THEY LEFT THE ATOLL?

A. Bikini was the home island, and regular trips were made to the other islands for copra production, hunting, fishing or vacationing.

4. Q. WILL THE ISLANDS BE ABLE TO SUPPORT THE BIKINIANS?

A. Not as they are right now. Food producing plants have been crowded out by the scrub vegetation--somewhat like weeds taking over a farm that has been uninhabited for many years.

5. Q. IS THERE VEGETATION ON ALL THE ISLANDS?

A. Yes, there is some type of vegetation on all the islands; the density varies, however. On the islands nearest the tests where the topsoil was blown or washed away along with most of

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the vegetation, the density is relatively low. On Bikini and Eneu, however, the survey teams had to hack tunnels through it. The vegetation was too thick and too tangled to be cut down easily.

6. Q. WHAT KIND OF MEASUREMENTS WERE MADE ON THE ATOLL?

A. External radiation was measured with a variety of instruments. Samples of soil, water, fish, birds and marine life were collected and brought back to the laboratory for precise measurements. The data from all sources were analyzed and evaluated and put in a package for review by the consultants' committee.

7. Q. HOW DID THE CONSULTANTS DECIDE BIKINI IS SAFE?

A. They reviewed measurements and data that had been accumulated during past surveys, then met with the 1967 survey team. Calculations were made of the total radiation exposure from all possible sources if the natives were returned. In their opinion the total fell well within acceptable limits.

8. Q. DOES THE REPORT MEAN THAT THERE IS NO RADIATION ON THE ISLANDS?

A. No. It means that in the opinion of the AEC and consulting experts the type and level of radiation do not offer serious threat to health and safety.

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9. Q. HOW MUCH RADIATION WILL THE BIKINIANS BE EXPOSED TO?

A. That will depend on whether or not the consultants' recommendations are followed. Under the worst conditions, with all of the recommendations ignored, both the internal and external accumulated dose in five years and beyond still would be within acceptable limits set by the Federal Radiation Council for individuals not engaged in atomic energy work. The calculated figures for accumulated whole body doses are:

| ADULTS | CHILDREN |
|-----------------------|-----------|
| 5 years - 1.43 rads | 1.16 rads |
| 30 years - 6.01 rads | 5.32 rads |
| 70 years -- 9.94 rads | 9.74 rads |

(If needed, the Federal Radiation Council's radiation protection guides for individuals are:)

Individuals in a Population

| | |
|------------|-----------|
| 1 year - | .5 rads |
| 5 years - | 2.5 rads |
| 30 years - | 15.0 rads |
| 70 years - | 35.0 rads |

The general philosophy, based on both experience and research, is that .5 rads per year provides an acceptable level for individuals. This value may be used where sufficient monitoring is performed so that radiation exposures are known.

10. Q. WHAT ABOUT THE RATE OF ACCUMULATION OF RADIATION?

A. The rate will be most rapid within the first five years, dropping off rather quickly after that.

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11. Q. WHERE DOES THE RADIATION ON THE ATOLL COME FROM?
- A. From radionuclides in soil and vegetation and, on some of the islands, from large amounts of radioactive scrap metal. The levels vary considerably from one island to another. It is for that reason that Eneu and Bikini were suggested as village sites since these two islands have lower levels.
12. Q. WHY ARE THE ISLANDS SAFE NOW WHEN THEY WEREN'T A FEW YEARS AGO?
- A. Radioactivity decreases with the passage of time. Some radionuclides disappear faster than others. Altogether it is a combination of the passage of time and the work of nature in diffusing and dispersing the radionuclides. Readings taken in 1964, for instance, were several times higher than those of 1967.
13. Q. HAS THE RADIATION ON BIKINI CAUSED FREAKS AND MUTATIONS IN PLANTS AND ANIMALS THERE?
- A. In 22 years of visiting the atoll, scientific survey teams have never found any evidence of a radiation induced mutation or freak.
14. Q. HOW DO RADIATION LEVELS ON BIKINI COMPARE WITH THOSE IN THE UNITED STATES?
- A. On Bikini Island itself, radiation levels are somewhat higher than in most parts of the U. S. On certain portions of the atoll there are levels below those found in most parts of the U. S.

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15. Q. WHAT IS A PANDANUS TREE?

A. Pandanus fruit is a native diet staple, supplying certain needed vitamins. However, the edible portion of the fruit tends to have a higher level of strontium 90 and cesium 137 than certain other plants grown in the same soil. The consultants have made a suggestion for cutting these levels down considerably on Bikini Island by replacing the top inch or two of soil which contains most of the radionuclides. On Eneu there is no need for such precautions since the soil there contains only a minute amount of radionuclides.

16. Q. WHY ARE COCOANUT CRABS TO BE REMOVED?

A. The cocoanut crab is a native favorite, but it has been observed to contain considerable amounts of strontium 90 and cesium 137. In most shellfish, strontium 90 is deposited in the shell. This particular crab eats his own shell when he molts, and in doing so retains the strontium 90 in his body.

17. Q. WHAT ABOUT COCOANUT TREES? ARE THEY RADIOACTIVE?

A. Cocoanuts take up moderate amounts of radioactivity (much less than pandanus fruit). Suitable planting procedures can reduce even this small amount of uptake. There are not many cocoanut trees on the atoll now. On most of the islands the tops of the cocoanut trees were snapped off by the force of the test blasts. On the islands most affected by the tests, the trees were burned off or washed away. It is expected that new cocoanut trees will be planted on the islands.

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18. Q. WILL THE BIKINIANS BE ABLE TO FISH IN THE LAGOON?

A. Yes. The survey team reports the lagoon is loaded with edible fish. The marine life is low in radioactivity.

19. Q. IS THERE ANY RADIATION IN THE BIRDS AND FISH?

A. Some fish and birds contain small amounts of radionuclides which they have retained from what they've eaten, but the amount is not large enough to cause concern.

20. Q. WOULD YOU CONSIDER BIKINI SAFE IF AMERICANS WERE TO LIVE THERE?

A. It would probably be even safer for Americans, since Bikinians live off the natural resources of the islands, which complicates their situation from a radiological point of view. Some of their locally produced foods tend to take up radionuclides.