He notes that ITER is at least as complex a design as a new passenger jet aircraft, for which Boeing, for example, typically employs more than 3000 CAD-station operators. Without more operators, Rebut says, construction of ITER will be delayed well beyond its scheduled 1998 start.

ITER Council members say Rebut's comments reflect a disagreement over what should be accomplished by the end of the current engineering design phase of the project. Although Rebut believes the project should be ready to start building components by the end of this phase, the ITER Council is considering settling for less than a construction-ready design, says Anne Davies, head of the U.S. Department of Energy fusion program and a Council member. "We've had some really strong advice from U.S. industry that we should not be doing 'build-to-print' design work," but rather letting the industrial contractors do the final design themselves, says Davies.

Rebut also says the ITER project is being undermined by the conflicting loyalties of its research staff. ITER researchers and designers are employees of one of the partner nations temporarily assigned either to one of the three ITER work sites or to the four "home teams" spread among national fusion laboratories. Torn between the interests of ITER and those of their own national fusion program, the designers "don't know who they're working for," he says. In particular, says Rebut, technical decisions and research priorities for ITER are sometimes influenced and compromised by the interests of the national fusion programs.

Charles Maisonnier, head of the fusion program for the European Union and a Council member, says that such conflicts are not surprising. "In any lab you have groups that want to continue what they are doing, putting an ITER label on their own work." But overall, he says, "I think that the four parties have realized that the progress of ITER is best for their own national programs." Davies agrees. "We all consider the success of ITER to be absolutely essential to our collective fusion programs. It's very difficult to change the director and management, but we want to make sure this thing succeeds." The Council is expected to discuss Rebut's criticisms at its meeting later this month, when it will select a new director and administrative officer.

–Christopher Anderson

WILDLIFE CONSERVATION

Orphan Chimps Won't Go Back to Nature

Like Thomas Wolfe, chimpanzees apparently can't go home again, and that spells trouble for Africa's growing population of orphaned wild chimps. In late May, primatologists tried for the first time to reintroduce a captured chimp to a wild troop. But 2 weeks ago, the animal, a 4-year old female named Bahati ("Lucky" in Kiswahili), turned up alone at a park warden's hut in Uganda's Kibale National Park.

There are now over 200 orphaned chimps in sanctuaries throughout Africa, and "it is a desperate situation," says Harvard primatologist Richard Wrangham, who has directed the Kibale Chimpanzee Project for 7 years and was involved in Bahati's release. And, says noted primatologist Jane Goodall, "the irony is that this has all come about because the game officials are now enforcing the laws, as we've asked them to do."

RICHARD WRANGHAM

Stranded. A failed attempt to return Bahati, this 4-year-old female chimp, to a wild troop has dimmed hopes for a solution to Africa's orphan chimp problem.

Since 1989, the United Nations and several African nations have signed treaties and enacted laws to stop the international trade in chimps, which were being sold to zoos, circuses, and laboratories for medical research. But those laws haven't stopped the hunting of adult chimps for food—or the selling of their orphaned offspring to locals as pets. When game wardens hear of such illegal transactions they confiscate the young chimps and pass them along to primatologists. "Most of the [confiscated] baby chimps are byproducts of the bush meat trade," says Karl Ammann, a conservationist who operates a small refuge for such chimps in Kenya. Orphans are also found in villages where farmers have killed adult chimps raiding their crops—apparently the fate of Bahati's mother—and in the possession of poachers hoping to sell the young chimps to smugglers.

Primatologists originally started chimp reserves in the 1960s and 1970s after several attempts to reintroduce captive chimps into chimp-inhabited forests (though not to wild chimps themselves) ended in failure. Today there are five sanctuaries, and conservationists estimate that another 200 young chimps are being looked after by private individuals or kept in halfway houses at places like the Entebbe Zoo until room in a sanctuary can be found for them.

Sanctuaries, however, are small, and their cost is high. The Jane Goodall Institute, a nonprofit organization dedicated to the study and conservation of chimpanzees and headed by the primatologist, spends about $40,000 a year maintaining reserves in the Congo Republique and Kenya; it has a third under development in Burundi. With an estimated 50 additional orphaned chimps turning up annually in the Congo Republique alone, sanctuary keepers are desperate for a better solution.

Bahati, Wrangham thought, stood a chance of being accepted back into the wild. "She was a young female, and I was told that she was about 7 or 8, the age that many females move into new groups," he explains. He hoped the resident chimps would regard her as a natural new arrival. Another factor in Bahati's favor was that she had only been in captivity for about 5 months, so she was not too accustomed to humans.

Initially, the experiment looked like a success. Bahati, Wrangham says, "was welcomed with uniform kindness and care" by the Kibale chimps. Although she went into a village just 2 days after being released, Bahati later appeared content to stay with the troop when she was returned to them. "Not one of the other chimps tried to be aggressive toward her, which is something none of us expected. So that is a kind of breakthrough," Wrangham says.

For a few weeks, Bahati stayed with the wild apes, but when an easily available food source gave out and the chimps began to disperse, Bahati did not join them. Instead, she turned up at the park warden's office. "She knew right where to find us," says Wrangham. She now resides at the Entebbe Zoo.

The research team now speculates that Bahati was too young (only after seeing her himself last month did Wrangham realize she was 4) and too weak to remain with the troop. "She lacked the self-confidence and physical strength to keep up with the other chimps," Wrangham says. "I think she came back to us because it was safe."

Still, the test gives the researchers hope that a somewhat older and more fit chimp might make the transition—although Wrangham admits the number of orphaned chimps that fit the bill (female, 7 years old, in top physical condition) is small. For the vast majority of Africa's orphaned chimps, there's apparently no going back.

–Virginia Morell