

Above: *The Hatsutori Maru No. 5, which was used during the final year of SPC's three-year tagging programme.*

Right: *The Secretary-General of the South Pacific Commission, the Hon. M. Young Vivian (centre), with the Fijian crew and one of the scientists on board the Hatsutori Maru.*



Life on SPC's Skipjack Survey Boat

For the past three years SPC has been running a skipjack survey and assessment programme, financed by voluntary contributions from a number of Governments. The programme scientists are now working on the vast amount of information collected during the three years of the survey. During their last days on the Hatsutori Maru No. 5, two of the Fijian crew members described for the Bulletin what it was like to work for the SPC programme.

LUI My name is Lui Andrews. I'm 22 years old. I joined the *Hatsutori Maru* while I was a trainee fisherman for the Ika Corporation. That was a year before the SPC chartered the boat in September 1977. From there I was also chosen to be one of the crew of the SPC survey. So now this is my third year with the SPC, which is also the last year of the survey. The goal of the SPC tagging programme is to see the migration of skipjack (for example, fish tagged in Fiji may be caught in New Zealand) and to record the amount of schools sighted around each country in case it might be interested in skipjack fishing in the near future.

On the ship my job is chumming bait¹, which is only done by two of us, that is, a guy chumming at the bow and myself at the stern. On the ship we have wells where we keep our live bait, which

we catch at night. During the day we look for schools of skipjack. When one has been spotted, bait is brought out of the wells and taken to the chumming tanks.

When the ship comes near the school it slows down; that's when we start chumming bait. When the school of skipjack see the bait they start chasing the baitfish, which are always swimming back to the ship for safety; then the spray goes on and the poling starts. In some countries where there is much bait or where they have commercial fishing boats, skipjack don't usually bite well because mostly they are always full or they have come to know about the trick used on them, so they usually stay a distance away from the ship and that's where I use my chumming techniques in getting them as close as possible to the hooks.

Working on a research boat isn't very different from working on a commercial fishing boat. The main or biggest difference is that on a fishing boat they fish to

1. "Chumming bait" means throwing the small fish used as bait into the sea, to attract the skipjack. On Japanese vessels like the *Hatsutori Maru*, a spray is turned on once the skipjack have been attracted. It makes it difficult for the skipjack to see the boat and to tell the difference between the baitfish and the lures used in skipjack fishing.



Lui Andrews preparing to dip bait out of the chumming tank.

keep, while on the research boat we fish, tag and release the fish. There are some other differences; for example, commercial boats don't usually have anyone spotting for schools when there is no bait. On a research boat the scientists are interested in all the schools sighted, so they spot even when there is no bait. Commercial boats don't have any beach nets for catching bait during the day, so they rely mainly on their "bouki-ami" nets which are used to catch bait at night. We throw as little bait as possible on the SPC boat, but on commercial fishing boats the more bait you throw, the more skipjack you pole. We don't fish the same school all day, whereas they do on the commercial boats just as long as the skipjack bite.

Working for scientists is working with skills like poling a skipjack to the cradle, gutting the skipjack, checking whether it's female or male, noting its stomach contents for scientific reasons, taking blood samples and spotting for skipjack, even when there's no bait, to find out how much skipjack is around. The places I've visited with the research boat are Papua New Guinea, Solomon Islands, New Hebrides, New Caledonia, Fiji, Tonga, Wallis, Samoa, Tuvalu, Kiribati, Marshall

Islands, Caroline Islands, Guam, Tokelau, Cook Islands, French Polynesia, New Zealand, Australia, Indonesia, Pitcairn, Niue, Norfolk and Nauru.

Fishing in Tonga was quite O.K. but there was not much bait. We fished outside the 10 mile limit on Sundays. In Samoa we were lucky to have some mollies² waiting for us. Fishing would have been good if we had had anchovies for bait. In Kiribati, during the first year, we went to a place called Butaritari with nice sandy beaches. We set the beach net once with a catch of about 450 buckets: nice fishing. The New Zealand baiting grounds around the Bay of Islands were quite good. A good amount of fish was tagged there, with the help of a fisheries plane looking for schools, but it was too cold for the Fijians, especially pulling the "bouki-ami" net at 4.30 a.m.

The visitors who stayed with us during our tagging trips around their islands seemed interested in our fishing methods so I asked a few of them what they thought about it. One was Samu Uili of Tokelau, who joined us in Majuro on our way down to Tokelau. Although the sea was fine Samu got sea-sick and all he thought of was to get off the ship as quickly as possible! The second one was Gaston Lutui of Wallis, who thought that it would be a good idea if Wallis had a fishing boat, but one of the problems, he said, was that they hadn't had any experience and it would take them a long time to learn.

One of the people I met was Richard Kinney, a Hawaiian guy who first taught us how to use the beach net in Makogaile, Fiji. Although he loved the fishing trip he just hated teaching us because most of the boys were just playing around and not concentrating on what he was trying to explain — the way the beach net should be set.

In some of the places I've visited the people didn't seem interested in commercial skipjack fishing, like in Tahiti where they only troll for skipjack for eating. Papua New Guinea, the Solomons and Fiji are almost the best developed countries in the Pacific; they are all independent and have good skipjack fisheries.

Teaching my fishing skills to others is something I cannot do because I think I haven't enough knowledge, and if I have to, I think I'll only teach those who haven't been on a fishing boat before. My cousin is a Captain and this is quite O.K. with him because he is a well-educated guy compared to me. I'd like to be Captain if I could have a chance to learn more about it.

The most enjoyable part of my job is when we're sitting on a school and it's

biting pretty well, and the worst is looking for schools in a very rough sea in a place where there aren't many skipjack.

I like working on a fishing boat, even when it's difficult conditions and long hours, because back in the village where I was brought up it used to be my hobby going out fishing every weekend. Secondly getting jobs in Fiji nowadays isn't easy and I'm not a well-educated guy, so I'll stick to fishing boats of any kind.

My plans after finishing work with SPC are to try to get onto one of the American purse seiners, and if I fail I'll just stick to the Ika Corporation ships back in Suva. I'd like to have a go on one of those purse seiners because I think I'd be the first Fijian on one and maybe later I could try to get more Fijians to join purse seiners because there will be more fishing in the Pacific in the future by this sort of boat.

If I have an opportunity to work for SPC again I will be very glad to, because the money is O.K., we visit places, the work is not too hard and I have come to know all the scientists well.

Describing the SPC staff isn't easy for they are always changing, e.g. Jean-Pierre stays for several months then goes back while Bob comes in and takes his turn. When Jean-Pierre comes on he usually looks fat and always smiling, but when the fishing starts and there's no bait at night or no skipjack the following day, I wonder whether he eats and sleeps or not, because his eyes are always bloodshot and he's getting thinner and doesn't speak unless you speak to him. The rest don't seem to have any problems or to be frightening, except for Bob when beach net time comes and the boys are moving like old ladies, that's the time "he looses his screw!"

Some visitors said the crew of the *Hatsutori Maru* make a really good team. One reason is that two years of working together isn't a short time and everybody has come to know each other very well.

My favourite holiday place was Ponape because it was the first time we had ever had a holiday there and I met up with an old friend, whom I met the first time we were in the Marshalls. We only have two days' holiday per month, at the time when it's full moon and we cannot catch bait.

The only advice I'd have for a boy looking for work on a fishing boat is to do what he's told to do and earn as much money as he can.

A typical fishing day

One typical fishing day was in the Marquesas. The standby bell rang at

2. Small baitfish bred in captivity.

4.30 a.m. Everybody got out of bed, changed into waterproof outfits, set the "bouki-ami" net and caught about 500 buckets of bait. After that we pulled the net in, tied it up, loaded the generator onto the ship and had breakfast.

After breakfast we loaded the beach net into one of the skiffs and headed for the beach. One skiff carried the net, Bob, Jona, Kitione, Eroni and myself, while Jim, Pierre and the rest of the Fijians with the bait receiver were on the other.

While we were cruising along the beach a school of Marquesan sardines was seen about 30 metres from the beach. I jumped into the water with the end of the net, which is always my duty, to pull it onto the shore and Bob drove the outboard at full speed around the school while Kitione and Eroni threw the net overboard. When both ends of the net met together we started loading the net and making the circle smaller while the rest of the Fijians checked the bottom of the net to make sure it didn't get caught onto the corals. At last the bait was loaded into the receiver, which was tied up alongside the other skiff, brought back to the ship and put into the bait wells. The net was set two more times in addition to the first one totalling the amount of buckets of bait to 60, 30 at the first set, 20 at the second and 10 at the third.

We loaded everything on the ship and headed for the fishing grounds. On the way, everyone had a shower and then each went to do his duty. One team went to look for schools while the other prepared the net which we use to get bait out of the wells and then waited for the first school to be sighted. It took about an hour before a good school of skipjack was sighted which the Captain agreed to fish; most of the schools that were sighted were of yellowfins of various sizes and yellowfin schools don't bite well.

The school was splashing when we came up to it and we baitmen started chumming bait. It was the only school we fished that day because we came to a stop when the bait was finished. After fishing, the boat started back for the baiting grounds while we crew gathered all the fish, helped the scientists gut the fish for its gonads and stomach contents and then had lunch. Arrived at the baiting grounds, we got the "bouki-ami" ready for the night and put both skiffs into the water, one with the generator and the other with an outboard motor for Bob to

take a look at the beach to see if any schools of bait were around. He came back without seeing any so some of the boys took a nap while the rest did some hand-fishing. At 17.00 hrs we had dinner, took a shower, then went to bed, standby at 22.00 hrs. We set the "bouki-ami" net, catching almost the same amount as the previous night.



Jona Ravasakula with blocks filled with tags used for tagging skipjack.

JONA My name is Jona Ravasakula. I'm a Fijian aged 21 years.

There were 14 of us Fijians working on the survey-ship chartered by the South Pacific Commission for surveying around the South and Central Pacific Islands. I joined this ship in March 1978 and before that I was working in Fiji on a local fishing boat just for one month. During that month the *Hatsutori Maru*, which was the name of the chartered ship, was in Fiji doing commercial fishing. The Captain of the ship was seeking four more Fijians to be his crew along with nine others who were already working there. I was lucky that I had the choice and I knew that it would be the only chance for me to visit other islands around the Pacific.

The main purpose of the SPC programme is that we are trying to learn where the fish are migrating, what temperature they usually live in, the type of food they eat and what time of the day we could catch a lot of fish. We measured the length of skipjack, we unhooked the fish and we also sometimes sampled blood. The SPC is willing to help any country that wants to know more about fishing tuna, for they have got the information about fishing in the Pacific Islands.

On the ship my job was being the laboratory assistant and helping in the preparation of tags and some other lab activities. My job was to prepare the tags that are used for marking fish. In addition to this I was also a fisherman. The preparation of tags required a lively mind and good concentration. When there was



Crew members of the Hatsutori Maru with some fine specimens of dogtooth tuna caught off Pitcairn.

a good school of fish, I had to be quick in filling up blocks of tags and careful not to misplace any tag in a wrong number. Every tag was numbered. There were hundreds of tags in a bunch and I had to put them in blocks which were numbered from 1-100. When all the blocks were ready I sometimes joined the crew in fishing because the scientists needed to tag plenty of fish in a particular place.

In March 1978, we surveyed around Wallis Island. One day we spotted a good school and we tagged 2,000 fish in not more than two hours in that school. As I said above I had to be quick when there was a good school. I tried my best but the scientists were faster than me. They finished up all the blocks of tags and kept on yelling for more. I was nervous and really scared of them, because I was just new to this job and to the scientists also. When we finished on that day the scientists came to me and praised me for my work. They said that I did a very good job and they were happy that we broke the world record for marking fish on that day. I was really proud that all the scientists liked the way I handled my job.

I found out that working on a research vessel was a bit different from a commercial fishing boat. First, there was the way we caught fish. On the research vessel we had to lift the fish up slowly to the cradle, tag them and throw them back into the sea, whereas on the commercial fishing boat we poled as many fish as we could up on to the deck. The quicker you were the more you'd get. The second thing was that on the research vessel work was sometimes easier than on the commercial fishing boat. We had lots of free time in the ship when we steamed from one country to another. We visited many islands in the Pacific and we got to know each other very well although we came from different countries.

We learnt more when we worked for the scientists. They told us names of fish that we did not know. It was useful practising our English every day. As for the Japanese, they were hard-working people. They were great fishermen and we learnt a lot from them. The scientists and the Japanese were of great help to us Fijians. They liked us and there was no discrimination in the ship.

There were many islands in the Pacific that we visited, including Tonga, where we caught some baitfish at night and some during the day when we set our beach net. Although the weather was bad in Wallis Island we caught a lot of baitfish every night and tagged many fish in rough seas. In Kiribati we did not catch much bait at night so we had to set our beach net in the daytime. One day at the island

of Butaritari we set our beach net only one time and got 450 buckets of bait.

We visited many islands in French Polynesia including Moorea, Bora Bora, Huahine, Tahiti, Fakarua and Rangiroa. We loaded some milkfish in Rangiroa and sailed for the Marquesas. The people there were friendly. They allowed us to set out our beach net in the day if we did not catch any baitfish at night. In December 1979 and January 1980 we surprised everybody when we tagged more than 18,000 fish in the Marquesas. We did not have a holiday at Christmas so all of us were homesick.

We left the Marquesas for Pitcairn in January 1980. There was no baiting ground in that island so we brought along some milkfish from Rangiroa. We spent about two days around Pitcairn and tagged some very big fish. On our way back to Tahiti Mr Harraway, Commissioner for Pitcairn, was with us. The sea was very rough with strong wind striking us for nights and days. As a result one of our outboard engines was washed away by a big wave and fell over into the sea at night. Mr Harraway enjoyed fishing with us until we reached Papeete, where he left the ship. We spent two days' holidays in Papeete and met some Fijians working there. The cost of things was very expensive there so we did not buy much during our holidays.

Although we did not tag much fish in the Cook Islands and couldn't find any place for baiting in Rarotonga, our short visit proved, when we sold the fish, that they really wanted us to do lots of work around their waters. We met Julian Dashwood, who was on board with us for some time. He invited us for a party during our holiday. It took us five days from Rarotonga to New Zealand during beautiful weather. When we reached New Zealand the weather was too cold for us, especially the Fijians. We caught many baitfish at night. We tagged more than 12,000 fish in New Zealand with the help of a plane directing us to the schools' positions. It was flown by Graham Bell. There were three American purse-seiners and a local fishing boat fishing with us in New Zealand. A TV crew came on board to take some pictures of us while we were fishing.

We came across a cyclone while we were sailing from New Zealand to Australia. It really scared me out of my life for it was the first time I'd come across a cyclone while at sea. I couldn't sleep in our cabin at night, so the scientists told me to sleep with them in their cabin which was more comfortable than ours. The first port we reached in Australia was Eden. It was cold just like New Zealand. We did not tag as much fish in Australia

as in New Zealand. In Papua New Guinea there were many fishing boats fishing with us, so there were not enough schools for us. We were held in Indonesia for two weeks without any work. We left from there to Guam, where we ended our second-year contract.

When we visited a particular island there were one or two men who came on board and stayed with us for about one week. While we were in Kiribati Herman Taaia was with us on board. He said that they had a local fishing boat called M.V. *Neimaganibuka*. During his short stay with us Herman helped the scientists in tagging fish. He said that he learnt some things from us that would help his Government fishing boat.

Bill Bayliff and Terry Forman were two visiting scientists from California (USA). They joined us in Tahiti for two months. Bill was about 50 years old while Terry was in his mid-thirties. They did many kinds of work in the ship, like helping the scientists in tagging. They also helped the crew in fishing. Terry was a funny man, making jokes with the Fijians.

Ioane was a big strong man from Tahiti. He was on board with us while we were fishing in French Polynesia and also in the Marquesas. We did not know that he was a good fisherman until after we saw him poling fish with only one hand or sometimes with two poles. Ioane said that he usually worked on a local fishing boat which never caught as much fish as us. He really enjoyed staying with us in the boat and he learnt more from us, especially the way we did our night baiting.

Most of the visitors who came on board said that the crew of the *Hatsutori Maru No. 5* have a very high morale. We have worked on the ship for three years now, with Japanese and with the scientists who came from different countries - Australia, France, California, Canada, New Zealand and Japan. We liked each other because we were on the same boat. So when visitors came on board we tried our best to make them happy and comfortable. When they left us we did not want them to say bad things about us!

Every month we spent two or three days' holiday on shore. The port which I liked best where we spent our holidays was Honiara, in Solomon Islands. We met many Fijians there and we enjoyed ourselves very much. The cost of things too was not so high, so we did lots of shopping. There were a few nice hotels and night clubs in Honiara where we enjoyed ourselves. Walking through town we were met by smiling faces enjoying the sunshine of Honiara.

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Breast Feeding

*Lend your ears!, mothers of today,
Forget what you know, but do what I say.
I want to share with everyone,
How to feed a baby daughter or baby son.*

*Why buy milk from the store,
When you have breast milk, already stored?
Not only is it cheap,
But it has the same heat.*

*You don't have to boil anything,
Or store some in a tin,
Just wipe the nipples to make them clean,
Then feed the baby and put him to sleep.*

*So if you want a strong healthy baby,
Everything is done by nature, and it's ready.
The only thing to do is,
To practise, and it'll give you goodness.*

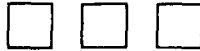
Wasting Money Makes Me Mad

*This was the experience I had,
Especially when I had some cents in my hands.
I didn't know how to use,
Sometimes it makes me confused.*

*But when I came to SPC/CETC,
Gee! my eyes could see
Where I went wrong,
Maybe because of tu mus longlong.*

*Budgeting was taught,
And that awakened my thoughts,
I tried to put it into practice,
Believe me, it was Fantastic!*

*So don't fall into the same trap,
Of spending without the right track.
But do budget what you get,
Then everything will be set.*



LIFE ON SPC'S SKIPJACK SURVEY BOAT

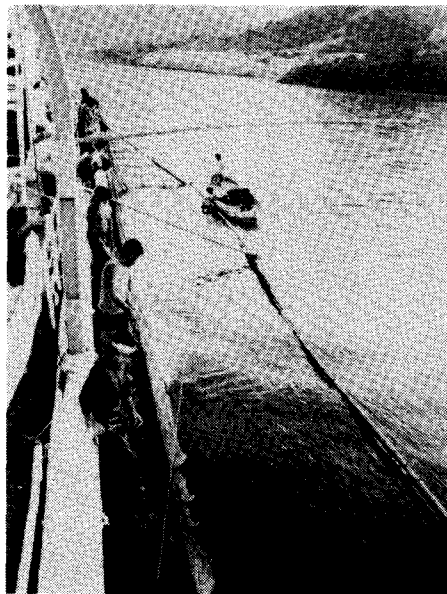
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As fishing was my first job, I liked it very much. Some people said that it was difficult work. I found myself enjoying it very much with no difficulty. We had days free of work when there was no bait. We had nice food on board and lots of fun when there was bad weather. When I was on the ship the most enjoyable part of my job was when a school bit very well like in the Marquesas, and the worst was when I spent four days in the hospital at Nukuhiva with all the insects in my room.

After working with the SPC I am planning to join a local fishing boat in Fiji. If I had the opportunity to work for SPC again I would be very happy to join. I wish we could be working for SPC all the time.

To those of you who want to join a fishing boat, it is not a hard job. You should be a fast worker and strong. Try to have some experience at sea before you join a fishing boat.

Most of the islands of the South Pacific Commission's area don't fish a lot for tuna because they are still under-developed. They need more help from



The bait net being hauled during day baiting.

the developed countries like Australia, New Zealand, Japan, France, the United Kingdom and the United States or from the South Pacific Commission straight away. Why don't they supply fishing equipment to the small countries, equipment like ships, nets, poles and many others? I think if those small countries

had the equipment then they would start fishing for tuna.

A typical fishing day

Every night and day we used the same pattern of baiting and fishing. Before dinner every day we prepared the net for night baiting, which we usually set at 11 o'clock at night. Three lights were on to attract bait; one at the bow, one at the midship (port side) and the third one was the generator's light that we put in the skiff which drifted about 15 metres from the stern of the ship.

After we set our net at 11 o'clock, we slept until 5 o'clock in the morning, when we set the net again. When we did not catch any bait at night we set the beach net near the beach during the day or we just went out spotting for schools. Sometimes we set the net four or five times a day. When there was bait we would move out fishing. A group of Fijians with the Japanese crew would be on watch for schools. That group would be fishing when there was a school, while the second group would be carrying the bait from the bait tanks to the chumming tanks. We would return to the baiting ground when there was no bait left in the tank. We would prepare the net again for night baiting and the pattern of baiting and fishing would be repeated every night and day. □