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The Humpty Doo Rice Trail

The story of the Humpty Doo Rice Trail begins in 1953 with two men at a party in Hollywood, Los Angeles, USA and ends in 1966 with one man standing in a rice mill near Darwin in the Northern Territory of Australia.

The story reaches across the Pacific Ocean from Los Angeles to Humpty Doo, meanders around the Adelaide River floodplain and across a bumpy road to Coolalinga.

It was inspired by grand visions of taming a new frontier, settling northern Australia and supplying rice to Asia. But this vision was swept away by an unfamiliar environment that would not support farming methods and machinery from distant lands. Magpie Geese were blamed for ruining the grand vision, but the Humpty Doo Rice Trail reveals other culprits.

The trail begins

At the time of the Humpty Doo Rice Project the Northern Territory was administered by the Australian Commonwealth Government.

The two men at the beginning of the Humpty Doo Rice Trail were Harold Holt and Allen Chase.

Many Australians remember Harold Holt as the Prime Minister who disappeared during an ocean swim in 1967, but in 1953 he was Minister for Labour and National Service and known for his powers of persuasion.

Minister Holt travelled the world negotiating trade contracts at a time when the Australian Government was keen to populate the north and sought ventures to help achieve this.

Allen Chase was a rich American entrepreneur who began making his fortune selling aircraft parts during World War II. With Hollywood celebrities among his guests, Chase was well known for the parties he hosted at his Bel-Air mansion.

At a 1953 party Holt told Chase about the Northern Territory’s potential for growing rice. He may have talked about Chinese growing rice between the late 1800s and 1926. He probably mentioned rice growing experiments at the Kimberley Research Station on the Ord River in Western Australia from 1947, a Rice Advisory Committee and two rice research stations on the Adelaide River.

Some issues were probably not mentioned. Trial plantings at the Humpty Doo Rice Research Station indicated that at least five years of survey was needed to gather necessary hydrological data. Agricultural experts advised that care was needed to locate suitable sites, consider flood control and find rice varieties suited to the area.
Farming a new frontier

The proposed rice growing areas were the sub-coastal plains of rivers in a region east of Darwin with annual rainfall averaging about 1300 mm.

However, the only predictability of the rainfall was that most would fall between December and April. Over 200 mm of rain could be dumped in 24 hours, or it could fall evenly through a month. The floodplains would be inundated during the wet season, but the duration, frequency and depth of flooding were inconsistent. The time it took floodplains to dry after the rains stopped was also variable.

After meeting Holt in 1953, Chase visited the sub-coastal plains and was impressed. He said:

This is exactly like the Nile Valley, only it is twice as good!

Consequently Chase formed a syndicate to pioneer rice growing in the area. It included: Samuel B. Mosher from Signal Oil; TV Star, Art Linkletter; and American President Lines Chairman, Ralph Davies. They began with a $40,000 survey and the 1954 report was positive:

The monsoon floods could be controlled to provide the right amount of water for rice cultivation, the land is so level and rich (11ft. topsoil in some spots) that it could be prepared for as little as $100 per acre, while four deep-running rivers in the area provide inexpensive transportation to the sea coast.

Territory Rice Limited was incorporated in Sydney with Chairman, Allen T Chase, Managing Director and Deputy Chair, Paul A Cullen and Directors SB Mosher, Arthur Linkletter, JE Cassidy, QC, BA, LLB and AT Anderson, BEc.

The arrangement was for the United States to provide most of the capital plus expertise on tropical agriculture and engineering. Australia was to provide additional capital, local administration and ‘know how.’

Major General (retired) Paul Cullen founded Australia’s first merchant bank, Mainguard (Australia) Limited, and invested a quarter of its capital (£250,000 or $500,000) in the rice project.

In November 1955 Territory Rice Ltd. received agricultural leases on 303,000 hectares of sub-coastal plains including the Adelaide, Mary, West Alligator, South Alligator and East Alligator rivers for growing rice – see Map 1, page 5. Development on Humpty Doo Station, an isolated area about 60 km south east of Darwin, commenced, perhaps with undue haste.

Reviewers believe management looked for maximum profit by minimising farm development costs and that there was never enough money committed to the Humpty Doo Rice Project to succeed.

Hasty beginning

Territory Rice Ltd. spent plenty of money trying to grow rice commercially at Humpty Doo, but how money was spent is questionable and the land never lived up to expectations. The Australian Government built roads, installed a power supply and provided other infrastructure.

The Humpty Doo rice growing area on the Adelaide River floodplain was previously a cattle farm – see Map 2, page 6. The Limilngan and Wulna traditional Aboriginal owners of this area were involved in early pastoral enterprises, but not the rice farming.
Map 1: The Humpty Doo rice growing area on the Adelaide River floodplain (from Mollah)
Map 2: Experimental and proposed rice cropping areas at Humpty Doo (from Mollah)
It was recognized that water was necessary to supplement the wet season rain. A large pump was installed on the Adelaide River at Middle Point to pump water from the Adelaide River into the irrigation channel. However, it could only be used while the river water was fresh, from the end of the wet into the mid dry season - not the time irrigation was most needed by the young rice.

Fogg Dam was constructed in 1956 at a cost of $100,000. The initial irrigation channel was too high to take water from the bottom of the dam. A deeper channel was needed but could not be built until 1962 because the floodplain remained too wet to allow access for a bulldozer and channelling equipment.

Fog Dam was built in 1956 to irrigate rice seedlings. Photo: National Archives, taken in 1958.

Harrison Dam was built in 1958 for $80,000. It was constructed without a natural catchment area as it was to be filled by pumping water from the Adelaide River. However, the amount of power required for pumping was so high, the government’s Northern Territory Administration (NTA) had to increase the capacity of its powerhouse. Pumps kept breaking down and eventually stopped after lightning set fire to a power substation. The dam never filled completely and was hardly used.

Building Harrison Dam. Photo: Ted Kilpatrick.
Over £25,000 ($50,000) was spent on infrastructure for electricity to power pumps and the Territory Rice camp.

The amount spent on harvesters and other large machinery is not known, but would have been considerable. In the USA, auto-headers could be traded in for new machines after three years when the sealed bearings became unreliable and other parts worn. On the Adelaide River floodplain in the Northern Territory of Australia, machines operated in an extremely harsh environment and trade in was not an option. This added to the operating costs. Territory Rice Ltd. did not have the money to keep an adequate supply of parts on hand. Replacement parts were expensive as they had to be flown to Darwin. It was thus more expensive to farm rice at Humpty Doo than in the USA where the technology originated.
In 1957 a rice mill with the capacity to mill two tonnes of rice per hour was built at Coolalinga, a bumpy 30 km ride along a dirt track half way between the rice fields and Darwin. Far from ideal, the location required constant handling as the rice had to be loaded and trucked to the mill to be processed, then transported to the harbour to be finally loaded onto a ship.

In 1960 Territory Rice Ltd. built a 100 tonne bulk storage bin at Wood Lane on the bank of the Harrison Dam spillway. This improved the efficiency of both harvesting and transport to the mill. The cost is not known, but costs were minimised by using steel from the old Vestey’s meat works in Darwin.

Expenditure was also reduced by reusing World War II items. 200 litre steel fuel drums costing 25 cents each were used to make culvert pipes for roadways around the rice bays. Larger culverts, about 1,800 mm diameter, were made from thick steel buoys from the World War II submarine net across the entrance to Darwin harbour.

**Budget cuts and liquidation**

Budgets were cut frequently and this influenced operations and performance. For the year ending 30 June 1955, $12,000 was cut from approved spending of $36,000. In November 1955, $268,000 was approved for a 200 hectare experimental area, but in April 1956 the funding was reduced to $168,000 and the area to be planted was doubled to 400 hectares. The project was struggling.

In 1957, after investigating whether the scheme was worthwhile, a wealthy American, Robert McCulloch, took over management and injected nearly two million dollars over the next three years.

Difficulties continued. In 1958 crops could not be irrigated and cattle damaged crops and levee banks. Then in April 1959, 380 mm of rain were dumped in 24 hours, creating boggy conditions that kept harvesters out of the rice bays until July. Only half the crop could be harvested and quality was affected. Later that year a dry season crop suffered water shortage and there was no money to harvest it.

Losses from Territory Rice Ltd. were greater than profits from other investments and Mainguard Merchant Bank was formally liquidated in 1958.

In 1959-60, 3,300 tonnes were harvested and Territory Rice Ltd. saw potential for fattening beef cattle on the plains and shipping them to Hong Kong with the rice. But this required greater investment and money was not available. In August 1960, Territory Rice Ltd passed into liquidation with outstanding debts.

Equipment was run down and Territory Rice Ltd. owed three month’s operating expenses to local creditors plus £17,500 ($35,000) to the NTA for electricity. Local creditors formed Adelaide River Ltd. and took control of the assets and debts of Territory Rice Ltd.

**Under new management**

After their employer, Territory Rice Ltd, went into liquidation, four local farmers sought the opportunity to bring their own practical experience to the project. Adelaide River Ltd. gave them permission to use Territory Rice Ltd. equipment, at no cost, to continue growing rice on the condition that they carried out repairs and maintenance and kept the equipment in good working condition. In addition, some major equipment, that had been on hire purchase to Territory Rice Ltd., had to be purchased by the farmers.
Don Buck, Arthur Parker, Bob Parker and Ted Kilpatrick were the local farmers. They formed Rice Development Pty Ltd. and accepted a proposal to farm one year at a time with an annual lease of land and capital equipment. All expenses, profit or loss were to be their responsibility.

**Challenges for four farmers**

Rice Development Pty Ltd. achieved improvements in growing rice, but lacked much of the necessary support that Territory Rice Ltd. had received from the Government. The farmers met other difficulties too.

The first year’s advance of $100,000 from the Commonwealth Development Bank was not made available until September. This and other contractual issues were a major hindrance when money for planning, acquisition of fuel, seed and fertilizer was needed. In fact, without a $4,300 loan from Sir William Gunn, the farmers would not have been able to plant the 1960 wet season crop.

The annual lease arrangement meant only one year could be planned at a time. Among other things, it prevented the farmers signing contracts to sell rice in Perth over a five year period.

Rice yields during the first two years were disappointing. The first year was put down to insufficient early rain and a low plant population. In the second year, a good plant population was spoiled by moisture stress when the monsoon was late and Sesbania, a native legume, grew in the crop. Black Sesbania seeds were similar in size to rice and difficult to remove while harvesting and milling.

![Sesbania](image)

*Sesbania, a native annual legume, has a black seed of similar size to rice grains. Photo: Ted Kilpatrick.*
Despite these obstacles, Rice Development Pty. Ltd. managed to build the 10 km channel from Fogg Dam to the rice bays to irrigate seedlings and improve yields. But there were still insuperable barriers. Apart from growing the crops, Rice Development Pty. Ltd. needed to mill and market its harvests bearing all associated costs - freight, insurance and packaging – without the support Territory Rice Ltd. had received.

In 1962, Rice Development built a 10 km channel from Fogg Dam to irrigate seedlings. Photo: Ted Kilpatrick.

In 1964 Rice Development Pty Ltd ceased operations despite improved rice yields. The farmers were unwilling to borrow more money, particularly as it was taking about a year to receive payment for the rice they had sold.

In 1964, Rice Development ceased operations despite better yields although milling continued until 1966. Photo: Ted Kilpatrick.
**Rice reports**

Seasonal conditions, events and sometimes rice yields were reported in Commonwealth and Northern Territory Government reports. These began at the rice research station in 1953-54, the season before Territory Rice Ltd. planted its trial crop, and ended in 1964 when the local farmers ceased operation. These are shown in the Appendix.

**Why did the rice project fail?**

Did inadequate finance or poor management cause the downfall of Territory Rice Ltd and end the dream of growing commercial rice along the Adelaide River?

It was a tough environment, but evidence suggests that Territory Rice Ltd. did not understand the planning and preparation needed in this new, very different environment.

A significant complication would have been the partitioning of Territory Rice’s management between Humpty Doo, Brisbane, Sydney and Los Angeles at a time when communication technology was limited to telexes and telephones. This arrangement was costly and only decisions at the lowest level were made on the ground at Humpty Doo.

Northern Territory Archives holds recordings of some of the government staff who were involved with the Humpty Doo rice project. Extracts follow.

Walter Nixon-Smith, an Agricultural Officer involved in rice trials by the Northern Territory Administration from 1949 to 1958, was critical of sowing methods:

> We prepared our land with a Ferguson tractor and a light two-furrowed plough that deep [15 – 20 cm] and we planted it and grew a good crop... Territory Rice came along and they put in huge bloody ploughs – discs about two feet wide and ripped the guts out of it.

Reginald Marsh, Assistant Administrator for the Northern Territory from 1953 to 1962, criticizes planning and management for local conditions:

> The Humpty Doo rice failed because of inexperience of the local conditions and utterly inept planning... the man who came in from America... had grown rice successfully in the Imperial Valley where there was no rain, where all the water was irrigation water, controllable, where man could switch it on and man could switch it off and everything was lovely... When he came to Darwin, the first season they planted rice there was a record flood... From then on he was obsessed with the uncontrollability of the weather and so he adopted farming techniques to meet that...

> ...to beat the possible flood he planted deep. The seed was cooked [by the tropical sun] and soon lost its viability. It was too deep... the early storms germinated the barnyard grass and a couple of other undesirable things... By the time the rain properly came in at the beginning of December and got down to germinate what rice was still viable, the rice had lost the race already because it could never catch up on the weeds...

Marsh also commented on the extra handling required with the rice mill situated about half way between the rice farm and shipping port. He suggests repeated handling of harvested rice doomed the project to failure.
Australia’s Commonwealth Scientific & Industrial Research Organisation (CSIRO) Soil Scientist, Alan Stewart, arrived after Territory Rice Ltd. went into liquidation, but had been involved in earlier land surveys that mapped the sub coastal plains. He suggested that trying large scale farming in an unknown environment was the problem:

_They had a reasonable crop one year but their organisation to harvest 1000 acres was so poor it took three months to harvest the last lot. Most grain was lost and most of that recovered had cracked and was poor quality... In 10 to 12 years of Humpty Doo experiments, found the land not easy to manage for growing rice... the main problem was people trying to do things on a large scale without the background knowledge of managing such a system._

Tom Lawler, who worked as a Rice Agronomist for the Agricultural Branch from 1961 to 1967, suggested management and rice varieties caused the project’s failure:

_...management was the essential thing. But the basic problem of its failure was simply that there were not suitable rice varieties, anywhere in the world, suited to mechanical culture in the tropics._

_... The varieties they used had been developed in the Asian area, specially selected to have weak straw, and for the heads to hang down so they could be easily harvested by hand. Now they were the reverse characteristics [of what was needed in the Territory]._

_...But the final and greatest [factor was] not the geese, but the fact that those whole black soil plains had been under the sea as recent as seven thousand years before. You dug down about three feet, and at the middle of the end of the dry season, when there was no moisture anywhere, there was blue, wet clay down there, and that was highly saline. So when this whole soil situation was filled up with moisture in the beginning of the wet, this salty water came to the surface. The rice varieties just – there aren’t any that can really survive, or yield highly, in that circumstance._

**Water**

Water was a problem from the beginning. There was either too much or too little.

Art Linkletter is credited with raising funds from Hollywood stars to buy land in the Territory and later, Western Australia. Linkletter invested in the Humpty Doo rice project. He was told the area received 85 inches of rain per year, which was sufficient for rice. When talking about this experience in 2000 he said:

_The question I didn’t know to ask was ‘How does the rain come down?’ And I found out it comes down in a week. Which took care of the rice. It went to sea._

Ted Kilpatrick, a Territory Rice employee who went on to become one of the Rice Development Pty Ltd farmers, recorded the technical details of the project in his book “Commercial Rice at Humpty Doo 1954-64.” He wrote about problems including Magpie Geese, other wildlife and water management. Water management was the main operational problem.

With no rain for over six months each year, irrigation was necessary for dry season crops. But it was also needed for wet season crops because the time between the first rains, when the rice was planted and follow-up rain was unpredictable.
Assuming all went well with planting and there was a crop ready to harvest there could still be problems. Once ripe, the rice had to be harvested when the grain moisture content was high, so harvesting was on a tight schedule. However, the heavy clay soils of the floodplain could be too wet for harvesting machinery. Crops could be ruined before the rice bays were sufficiently dry for the machinery.

Machinery did not travel well on the wet black soil floodplain, as demonstrated by this bogged rice header. Photo: Snow Klose.

The MV Slevik being loaded at a temporary dock set up on the Adelaide River in 1961. Photo: NTAS

**Other issues**

In the 1950s and 1960s the area was very remote. There was no next day delivery service for equipment, parts or supplies and markets were even more distant.

Planes did not fly to Darwin daily. Roads were poor, often inaccessible during the wet season, and Darwin was not on a main shipping route.

When rice was transported by boat it was critical for it to be dry because moist/wet rice expands and could potentially split the hull of a boat and cause it to sink! In 1960 it took 12 days to load 3,000 tonnes of rice at Darwin due to rain causing delays. By comparison, unloading in Hong Kong took just 24 hours.

In the dry season of 1961 Rice Development Ltd. loaded and shipped 370 tonnes onto the MV Slevik at Middle Point on the Adelaide River. Darwin waterside workers took just eight hours to load 7,400 bags each weighing 50kg. The anchor bollards for the temporary dock at the Adelaide River remain – now at the Humpty Doo Barramundi Farm.
What about the geese?

Magpie geese have long been blamed for the Humpty Doo rice project’s failure.

There was just one aerial sowing of rice during the project, but the stories of this made headlines and tarnished the reputation of Magpie geese forever. According to Allen Chase the aerial sowing was:

   a race between gravity and the geese. They caught half the seed going down and the rest they dug out of the rice paddies.

Ted Kilpatrick did not think the geese were a great problem. He believed that crop loss due to Magpie geese could be prevented by timing the planting of cultivated rice so that it would mature after the geese had already fed on wild rice and dispersed.

Reginald Marsh, Assistant Administrator for the Northern Territory, was scathing about blaming the geese for the project’s failure:

   Now, the Humpty Doo rice failure is blamed in the press and everywhere else on the geese, the poor wretched magpie geese. Well, that was a lot of rot... Now, the magpie geese disturbed things a bit but they didn’t affect the economics significantly and that was a real publicity stunt.

CSIRO Soil Scientist, Alan Stewart suggested the geese were only a minor problem:

   Magpie geese did some damage but with 1000 acres (the area planted for about three years), magpie geese might damage about 15 acres – the more you grow the less you need to worry about the geese.

Geese are the first thing that comes to mind when the Humpty Doo rice project is mentioned.

Photo: Ted Kilpatrick.

Last man standing

The Humpty Doo commercial rice project lasted ten cycles of seasons, a reasonable time to understand an area and establish crops compatible with the climate and environment. But the international investors gave up after six seasons.
Had Territory Rice Ltd begun by putting their enthusiasm into planning and preparation, they may have resolved irrigation issues without building two failed dams.

They may have developed better drainage for the rice bays to facilitate timely harvesting.

Time would have also given Territory Rice the benefit of CSIROs research to discover varieties of rice more suited to growing in the area.

The man left standing in the rice mill at Coolalinga in 1966 was Ted Kilpatrick who commenced with Territory Rice in May 1957. He maintains that rice growing at Humpty Doo was a successful experiment and that it did not succeed commercially because it did not get the chance:

>You’ve got to do your planning. You’ve got to get your crops matched right with the soils.
>You’ve got to understand the way the wet works. And you’ve got to stick with it.

**Fogg Dam and Harrison Dam postscript**

At the time of the Rice Project no one gave a thought to consulting the Limilngan-Wulna Aboriginal people, the traditional owners, who have lived off the land in this area for thousands of generations.

In 1959 Fogg Dam was made a Bird Protection District and later became a Conservation Reserve. It is the only Top End wetland accessible throughout the year from Darwin. With a variety of habitats in a small area, Fogg Dam has become known internationally amongst birdwatchers and biologists.

In 2009 it was Heritage listed.

Fogg Dam was named after Mr James Fogg, Managing Director of Utah Australia Ltd, a construction contractor to Territory Rice Ltd. He was also project manager for the building of Eildon Weir, now Lake Eildon, in Victoria.

Harrison Dam was also made a Conservation Reserve although seasonal wildfowl hunting is permitted.

Harrison Dam was named after Squadron Leader, later Wing Commander, Arthur Harrison who was in charge of the construction squadron that built Anzac Parade and Fogg Dam.

**Kakadu connection**

In 1955 the Northern Territory Administration asked the CSIRO Wildlife Survey Section to investigate the impact of Magpie geese on the viability of commercial rice farming in the Top End. Harry J Frith and Stephen Davies were selected to do this. They reported that:

>...the geese would not be a continuing problem to the rice industry; rather the advance of settlement would eliminate the magpie goose from the Northern Territory.

When Frith became aware that the Magpie geese may lose their habitat, he wanted to preserve some of the coastal plain for their survival. Frith was appointed to the Fauna Advisory Committee because of his work on the geese.

In 1962 the Fauna Advisory Committee made Woolwonga Aboriginal Reserve a nature reserve. Then, in 1965, the NT Reserves Board recommended a 6,410 km² national park in the Alligator River area, including Woolwonga Aboriginal Reserve.
Frith was appointed to a Federal Government planning team in 1970 to develop a management plan for a national park. ‘Proposal for a Northern National Park, NT’ was published in 1971. In 1972 the NT Administration proclaimed the 3,290 km$^2$ Alligator Rivers Wildlife Sanctuary.

Recommendations of the Ranger Uranium Environmental Enquiry in 1979 led to the declaration of Kakadu National Park which incorporated the sanctuary. While many were involved in establishing Kakadu, it began with Frith’s desire to provide a sanctuary for geese and wildlife displaced by rice farming.

Further reading

Although only a brief chapter in the Northern Territory’s history, the Humpty Doo rice project is bigger than this booklet. If you would like to delve deeper, following are the references used.


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STEWARD, GA (Alan), TS:331
LAWLER, Tom, TS:851
NIXON-SMITH, Walter, TS:512

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Litchfield Council

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Sydney Morning Herald (25 August 2007) The great desert dream

The Kingdom of Rice – a short film
### Appendix: Rice Reports

<table>
<thead>
<tr>
<th>Year</th>
<th>Weather &amp; Flooding</th>
<th>Events</th>
<th>Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953-54</td>
<td>Prolonged hot, dry period</td>
<td>Lots of seedlings burnt.</td>
<td>Excellent stands of Mekeo and Tribulation varieties</td>
</tr>
<tr>
<td>March 1954</td>
<td></td>
<td>Magpie Geese attack the crop.</td>
<td></td>
</tr>
<tr>
<td>April 1954</td>
<td>Cyclone</td>
<td>Rice at Humpty Doo destroyed.</td>
<td></td>
</tr>
<tr>
<td>1954-55</td>
<td>Record October rains followed by</td>
<td>Territory Rice Ltd. plant eight hectares on the edge of the Adelaide River plains.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>continued rain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 1955</td>
<td>Floods cover much of area</td>
<td>Floods prevent evaluation of varieties planted.</td>
<td></td>
</tr>
<tr>
<td>1955-56</td>
<td></td>
<td>Fourteen varieties planted on 100 hectares.</td>
<td></td>
</tr>
<tr>
<td>Feb 1956</td>
<td>Record floods</td>
<td>Serious losses but good yields harvested in May-June.</td>
<td>4.5 ton/ hectare</td>
</tr>
<tr>
<td>1956-57</td>
<td>So wet that at Christmas all</td>
<td>Higher ground cultivated because of the previous floods.</td>
<td>0.82 ton/hectare</td>
</tr>
<tr>
<td>Dec to Mar</td>
<td>tractors bogged</td>
<td>800 hectares to be planted but operations behind schedule due to wet.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Only 243 hectares sown by machine, so aerial sowing undertaken.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Geese and other birds eat seed as it’s sown. After only half the seed germinated, there was further damage by floods, insects, cockatoos and brolgas.</td>
<td></td>
</tr>
<tr>
<td>1957-58</td>
<td></td>
<td>Finances stretched after first three seasons so only 80 ha planted in 1957.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 ha dry season trial.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shareholder, Robert McCulloch, investigates feasibility of continuing the scheme then installs his own management and injects nearly $2,000,000 into Territory Rice Ltd. over the next three years.</td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>Weather &amp; flooding</td>
<td>Events</td>
<td>Yield</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>1958-59</td>
<td>April 1959 cyclonic depression dumps 380 mm in 24 hours</td>
<td>Commercial cropping restarted. 2,024 hectares were planted by the end of October 1958 could not be irrigated. Poor seed resulted in low germination and cattle got through fences, damaging the crops and levee banks. Cyclone-damaged crop and boggy conditions prevented harvesters from accessing the paddies until July - by then the stems had weakened so mature heads of grain fell to the ground. With the fields still too wet for bulk handling trucks to drive on, harvesters drove back and forth to empty their bins, wasting time and money. Only half the crop was harvested. Then there were more losses in milling. The final mediocre product was not accepted on the Australian market.</td>
<td>0.63 ton/hectare</td>
</tr>
<tr>
<td>1959</td>
<td>Water shortages</td>
<td>280 ha planted in dry season.</td>
<td>0.5 t/ha</td>
</tr>
<tr>
<td>1959-60</td>
<td></td>
<td>2,180 ha planted and 3,300 ton shipped to Hong Kong.</td>
<td>1.5 t/ha</td>
</tr>
<tr>
<td>1960</td>
<td></td>
<td>Potential seen for fattening beef cattle on the plains and shipping them live to Hong Kong with the rice. But additional investment would be needed and six years of disappointment had quenched ambitions and desire for the scheme.</td>
<td></td>
</tr>
<tr>
<td>August 1960</td>
<td></td>
<td>Territory Rice Ltd passed into liquidation with large outstanding debts.</td>
<td></td>
</tr>
<tr>
<td>1961-62</td>
<td>Poor early rain</td>
<td>Disappointing yield during Rice Development’s first year of operation due to insufficient early rain and a low plant population.</td>
<td></td>
</tr>
<tr>
<td>1962-63</td>
<td>Late monsoon rains</td>
<td>Good plant population spoiled by moisture stress when the monsoon rains were late and Sesbania weed grew in the crop. 10 km long channel dug from Fogg Dam across the middle of the plain.</td>
<td></td>
</tr>
</tbody>
</table>
Tourist Guide to The Humpty Doo Rice Trail

Follow the Humpty Doo Rice Trail from Darwin to Fogg Dam and the Adelaide River.

If you are starting the trail in Darwin you might view the Port from the lookout beside Government House and visit Casuarina Drive, Nightcliff where Territory Rice Ltd. had a house for its manager and an office at the Seabreeze Hotel. The hotel was destroyed in Cyclone Tracy. A memorial plaque is located in the park near the pier.

The first relic is the large blue water pump at SG Kennon’s on Menmuir Street, Winnellie, was purchased for the rice project but was forfeited when Territory Rice Ltd was unable to pay customs duty.

The rice mill is on the Stuart Highway at Coolalinga, 28 km from Darwin. An access road across the road from the Coolalinga Shopping Centre leads to this large tin shed, but you cannot enter the grounds or the building. Designed and built by Arthur Hofmann, one of the world’s foremost rice milling experts in 1957, the rice mill operated until 1966.

Along the Arnhem Highway on the right between Lambell’s Lagoon Road and Anzac Parade is an electricity substation built to provide electricity to the rice project.

At the corner of Anzac Parade and the Arnhem Highway there is now the Government radio transmission base. Territory Rice Ltd planned a small airfield here to replace Kemp airstrip.

Along Anzac Parade on the left hand side was the Commonwealth Scientific & Industrial Research Organisation (CSIRO) Village, a centre for agricultural research. Soil, rice varieties and hydrology research was based here. The site is now named Middle Point Village.

Stop at the information sign outside Middle Point Village to learn more about the area and the wildlife of Fogg Dam Conservation Reserve.
The Humpty Doo Rice Trail where most of the action was - on the Adelaide River floodplain.

Fogg Dam is reached by turning left off Anzac Parade, 500 metres past Middle Point Village. Built in 1956 by the Royal Australian Air Force construction squadron under contract to Territory Rice Ltd for dry season irrigation, its capacity was 3,400 mega litres. Fogg Dam has long been the main feature associated with the failed commercial rice project, while being an outstanding wetland area popular for bird watching.

Stretching northeast from the dam wall (across from the first bird hide) is the 10 km irrigation channel built by Rice Development Pty Ltd in 1962, six years after the dam was built.
What remains of the channel created by Rice Development six years after Fogg Dam was built. Photo: Susan Pedersen, 2009.

Also accessible from Anzac Parade are two more sightings. Kemp Airstrip, the Rice Project’s initial airstrip, is located opposite 830 Anzac Parade. The 100 tonne rice storage bin built in 1960 is at the end of Wood Lane on the bank of Harrison Dam spillway. It is now listed on the Northern Territory Heritage Register.

The bulk storage bin was constructed using steel from Vestey’s meatworks. Photos: Ted Kilpatrick.
Harrison Dam, built in 1958 by Theiss Brothers, had a 10,000 mega litre capacity. However, with no natural catchment, water had to be pumped to the dam from Adelaide River. Due to pumping problems, the dam never filled and contributed little to irrigation.

Heading east from Anzac Parade along the Arnhem Highway, turn left into Window on the Wetlands. It’s well worth going up to look at the displays and enjoy the views from Window on the Wetlands.

The car park of Window on the Wetlands was the original site of the CSIRO rice project accommodation prior to the Middle Point location.

Some rice farm machinery remains at the base of Beatrice Hill, below Window on the Wetlands. The drive to Spectacular Crocodile Cruises, via Window on the Wetlands, is between the rice bays.

Looking towards Beatrice Hill from the Territory Rice Limited farm. Photo: Ted Kilpatrick.

The following relics are on private property.

At the end of Anzac Parade is the entrance to the Barramundi Farm. Relics on this property can only be seen on organised tours of the farm.

The private road to the farm follows an irrigation channel between Fogg Dam and the Adelaide River.

The remnants of culverts, made by welding 44 gallon drums together, lie rusting amongst the rice bays along the road. They are only visible late in the dry season when the ground is clear of grass.
Culverts to drain roadways between rice bays were made by welding heavy-duty 200 litre drums together. Photo: Susan Pedersen, 2009.

The 150 kW pump used to move water from the Adelaide River to the irrigation channel is at the Barramundi farm. It could pump 2.8 cubic metres per second (240 mega Litres per day) through its 1,670 mm barrel from the river to the irrigation channels. The pump is now listed on the Northern Territory Heritage Register.

Remains of Middle Point pump on the Adelaide River. Photo: Jeremy Hemphill
The remains of a small pump used to move water from the channel to the rice bays lies near the entrance to the Barramundi farm.

Small pumps were used to move water from irrigation channels to rice bays. Photo: Susan Pedersen, 2009.

Large anchor blocks for the temporary dock used to load rice onto the Slevik in 1961 are at the Barramundi Farm. These were made from material recycled from the World War II submarine net located across the entrance to Darwin harbour.

The Territory Rice Camp was located at the end of Thomsen Road. This is now private property and no remains are evident.

The Humpty Doo Rice Trail finishes back along the Arnhem Highway, heading west towards Darwin.