

MINUTES OF REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE PALMDALE WATER DISTRICT, MAY 11, 2020:

A regular meeting of the Board of Directors of the Palmdale Water District was held Monday, May 11, 2020, at 2029 East Avenue Q, Palmdale, California, in the Board Room of the District office. President, Vincent Dino, called the meeting to order at 6:07 p.m.

1) Pledge of Allegiance/Moment of Silence.

At the request of President Dino, Director Alvarado led the pledge of allegiance followed by a moment of silence.

2) Roll Call.

Attendance:

Vincent Dino, President (via teleconference)
Kathy Mac Laren, Vice Pres. (via teleconference)
Gloria Dizmang, Treasurer (via teleconference)
Don Wilson, Secretary (via teleconference)
Robert Alvarado, Assistant
Secretary (via teleconference)

Others Present:

Dennis LaMoreaux, General Manager
Eric Dunn, General Counsel (via teleconference)
Adam Ly, Assistant General Manager (via teleconf.)
Mike Williams, Finance Manager (via teleconf.)
Judy Shay, Public Affairs Director via teleconf.)
Jennifer Emery, Human Res. Dir. (via teleconf.)
Jim Stanton, Information Technology Manager
Chris Bligh, Facilities Manager (via teleconference)
Bob Egan, Financial Advisor (via teleconference)
Dawn Deans, Executive Assistant
3 members of the public

3) Adoption of Agenda.

It was moved by Director Dizmang, seconded by Director Mac Laren, and unanimously carried by all members of the Board of Directors present at the meeting on the following roll call vote to adopt the agenda, as written:

President Dino – aye
Director Mac Laren – aye
Director Dizmang – aye
Director Wilson – aye
Director Alvarado - aye

4) Public Comments for Non-Agenda Items.

There were no public comments for non-agenda items.

5) Presentations:

5.1) None at This Time.

There were no presentations.

6) Action Items – Consent Calendar: (The Public Shall Have an Opportunity to Comment on Any Action Item on the Consent Calendar as the Consent Calendar is Considered Collectively by the Board of Directors Prior to Action Being Taken.)

6.1) Approval of Minutes of Regular Meeting Held April 27, 2020.

6.2) Payment of Bills for May 11, 2020.

6.3) Approval of Salary Ranges for Junior Engineer, Assistant Engineer, Associate Engineer, and Senior Engineer Positions in the Engineering Department. (No Budget Impact – Human Resources Director Emery/Personnel Committee)

6.4) Approval of Revision to Organizational Structure Moving the SCADA Instrumentation Tech Positions From the Facilities Department to the Information Technology Department. (No Budget Impact – Human Resources Director Emery, Information Technology Manager Stanton/Personnel Committee)

President Dino announced the items included in the Consent Calendar after which Director Wilson requested Agenda Item No.'s 6.3 and 6.4 be pulled from the Consent Calendar for further discussion followed by discussion of posting the Engineering Department positions on the web site; replacing the position of a retiring employee; and the number of SCADA Instrumentation Tech positions to be transferred from the Facilities Department to the Information Technology Department.

It was then moved by Director Wilson, seconded by Director Mac Laren, and unanimously carried by all members of the Board of Directors present at the meeting on the following roll call vote to approve those items included in the Consent Calendar:

President Dino – aye
Director Mac Laren – aye
Director Dizmang – aye

Director Wilson – aye
Director Alvarado - aye

7) Action Items - Action Calendar (The Public Shall Have an Opportunity to Comment on Any Action Item as Each Item is Considered by the Board of Directors Prior to Action Being Taken.)

7.1) Consideration and Possible Action on Resolution No. 20-7 Being a Resolution of the Board of Directors of the Palmdale Water District, Approving an Installment Purchase Agreement to Refund a Portion of the Palmdale Water District Public Financing Authority's Water Revenue Bonds, Series 2013A, and Authorizing the Execution and Delivery of Said Installment Purchase Agreement and Related Documents. (\$8.81 million – Non-budgeted – Finance Manager Williams, Mark Northcross of NHA Advisors/Finance Committee)

Mr. Mark Northcross, NHA Advisors, provided an overview of the terms for refinancing existing bonds, and after a brief discussion, it was moved by Director Mac Laren, seconded by Director Wilson, and unanimously carried by all members of the Board of Directors present at the meeting on the following roll call vote to approve Resolution No. 20-7 being a Resolution of the Board of Directors of the Palmdale Water District, Approving an Installment Purchase Agreement to Refund a Portion of the Palmdale Water District Public Financing Authority's Water Revenue Bonds, Series 2013A, and Authorizing the Execution and Delivery of Said Installment Purchase Agreement and Related Documents.

President Dino – aye
Director Mac Laren – aye
Director Dizmang – aye
Director Wilson – aye
Director Alvarado – aye

Resolution No. 20-7 is hereby made a portion of the minutes of this meeting.

7.2) Adjourn to Public Financing Authority Board Meeting. (President Dino)

At 6:25 p.m., President Dino stated that the Board of Directors of the Palmdale Water District will now adjourn to a meeting of the Board of Directors of the Public Financing Authority.

7.3) Consideration and Possible Action on Authorization of the Following Conferences, Seminars, and Training Sessions for Board and Staff Attendance Within Budget Amounts Previously Approved in the 2020 Budget:

a) CSDA and/or ACWA Webinars Related to the COVID-19 Pandemic.

After a brief discussion of these conferences, seminars, and training sessions, it was moved by Director Alvarado, seconded by Director Mac Laren, and unanimously carried by all members of the Board of Directors present at the meeting to approve the following conferences, seminars, and training sessions for Board and staff attendance within budget amounts previously approved in the 2020 Budget: CSDA and/or ACWA Webinars Related to the COVID-19 Pandemic.

President Dino – aye
Director Mac Laren – aye
Director Dizmang – aye
Director Wilson – aye
Director Alvarado - aye

8) Information Items:

8.1) Reports of Directors:

a) Meetings; Standing Committee/Assignment Reports; General Report.

Director Wilson reported that on February 6, he attended the Finance Committee meeting; that on April 30, he attended a weekly conference call; and that on May 7, he attended a weekly conference call.

Director Dizmang amended her last report to include a Board briefing she attended on April 30 and then reported that on May 5, she attended the Special Finance Committee meeting, and the Board took action on the items discussed earlier this evening; that on May 7, she attended a Board briefing; and then provided a detailed report on the history of drought, a copy of which is hereby made a portion of the minutes of this meeting.

Director Mac Laren reported that on April 30, she attended a weekly update briefing; that also on April 30, she attended the City of Palmdale's emergency update

meeting; that on May 7, she attended a Board briefing; and that also on May 7, she attended the City of Palmdale's emergency update meeting.

Director Alvarado reported that on April 30, he attended a weekly briefing; that also on April 30, he attended the Antelope Valley Partners Regional Briefing with the City; that on May 5, he attended the Finance Committee meeting; that also on May 5, he attended a briefing with the President of the Palmdale Fin & Feather Club regarding their re-opening date; that on May 7, he attended a Board briefing; and that also on May 7, he attended the Antelope Valley Partners Regional Briefing with the City.

President Dino reported that on April 28, he attended an AVEK Board meeting via teleconference; that on April 29, he attended an Agenda Review and Approval meeting; that on April 30, he attended a weekly update briefing; that on May 7, he attended a Board briefing; and that on May 11, he is attending the Palmdale Water District Regular Board Meeting

8.2) Report of General Manager.

General Manager LaMoreaux stated that ACWA has cancelled their spring conference and is working towards a virtual conference; that it is unknown if the JPIA meeting will be held during the virtual conference; and that a Palmdale Recycled Water Authority meeting is scheduled for next Monday.

8.3) Report of General Counsel.

General Counsel Dunn stated that regarding Director Mac Laren's earlier request, AB 992 was introduced a few months ago and changes the rules and definition of a meeting under the Brown Act; that this bill has not been adopted; and that if adopted, a meeting will not include individual communications made on the internet and social media as long as there is no direct communication with another Director.


9) Board Members' Requests for Future Agenda Items.

Director Wilson requested updates on the office remodel, the landscape plans for the Water Conservation Garden, and actual revenue vs. budgeted to determine if customers are paying their bills.

There were no further requests for future agenda items.

10) Adjournment.

There being no further business to come before the Board, the meeting was adjourned at 6:57 p.m.



Secretary

RESOLUTION NO. 20-7

RESOLUTION OF THE BOARD OF DIRECTORS OF THE PALMDALE WATER DISTRICT, APPROVING AN INSTALLMENT PURCHASE AGREEMENT TO REFUND A PORTION OF THE PALMDALE WATER DISTRICT PUBLIC FINANCING AUTHORITY'S WATER REVENUE BONDS, SERIES 2013A, AND AUTHORIZING THE EXECUTION AND DELIVERY OF THE INSTALLMENT PURCHASE AGREEMENT AND RELATED DOCUMENTS AND ADDITIONAL ACTIONS

WHEREAS, the Palmdale Water District, a California irrigation district organized and existing under the laws of the State of California (the "District"), is authorized to enter into agreements and to finance and refinance the acquisition and construction of improvements to the District's water system (the "System"); and

WHEREAS, the District and the Palmdale Water District Public Financing Authority (the "Authority") entered into an Installment Purchase Agreement dated as of May 1, 2013 (the "2013 Installment Purchase Agreement") for the purpose of securing the payment of the principal of and interest on the Authority's Water Revenue Bonds, Series 2013A (the "2013 Bonds"), which 2013 Bonds were issued pursuant to an Indenture of Trust dated as of May 1, 2013, by and between the Authority and The Bank of New York Mellon Trust Company, N.A., as trustee; and

WHEREAS, the 2013 Bonds maturing in 2038 and 2043 (the "Refinanced Maturities") were issued to finance the construction of improvements to the System (the "2013 Project"); and

WHEREAS, the District now desires to enter into an Installment Purchase Agreement (the "2020 Installment Purchase Agreement") with Western Alliance Bank or an affiliate (the "Purchaser") for the purpose of refinancing the 2013 Project by redeeming the Refinanced Maturities; and

WHEREAS, the District desires to retain the services of a bond counsel, a municipal advisor and a placement agent as described herein; and

WHEREAS, for this refinancing there has been presented to the District the forms of the 2020 Installment Purchase Agreement, an Escrow Agreement by and between the District and The Bank of New York Mellon Trust Company, N.A. (the "Escrow Bank") relating to the Refinanced Maturities (the "Escrow Agreement") and an agreement for services from bond counsel to the District (the "Agreement for Services") for approval; and

WHEREAS, in connection with the redemption of the Refinanced Maturities, the District will need to amend that certain Installment Payment Agreement, dated as of May 1, 2013, by and between the District and the Authority by executing a First Amendment to Installment Purchase Agreement (the "First Amendment") and to obtain the consent of the bond insurer of the 2013 Bonds (the "Bond Insurer") to the First Amendment; and

WHEREAS, in compliance with the requirements of Government Code Section 5852.1, the District has obtained from NHA Advisors, its Municipal Advisor (the "Municipal Advisor"), good

faith estimates of certain financial terms related to the refinancing of the 2013 Project through the execution and delivery of the 2020 Installment Purchase Agreement which estimates are disclosed and set forth in Exhibit A hereto and were made available at a public meeting of the Board of Directors of the District; and

NOW, THEREFORE, the Board of Directors of the Palmdale Water District does hereby RESOLVE, DETERMINE and ORDER as follows:

Section 1. Each of the above recitals is true and correct and is adopted by the Board of Directors as the legislative body of the District.

Section 2. The forms of the 2020 Installment Purchase Agreement, the Escrow Agreement, the First Amendment and the Agreement for Services are hereby approved and each of the President of the District, the General Manager of the District, the Finance Manager/CFO of the District or their written designees (the "Authorized Officers"), acting alone, is hereby authorized and directed to execute and deliver the 2020 Installment Purchase Agreement (subject to the limitations set forth in the following sentence), the Escrow Agreement, the First Amendment and the Agreement for Services in the name of and on behalf of the District, in substantially the form and content now before this meeting, but with such changes, modifications, additions and deletions therein as shall be deemed necessary, desirable or appropriate by the Authorized Officer or Authorized Officers executing the same, such approval to be conclusively evidenced by the execution and delivery thereof by one or more of the Authorized Officers. The 2020 Installment Purchase Agreement shall be executed only if the total principal components due thereunder do not exceed \$9,100,000, the maximum interest rate for the interest components due thereunder shall not exceed 3.50% per annum and the net present value savings to the District, as calculated by the District's Municipal Advisor, shall not be less than 5.00% of the outstanding principal amount of the Refinanced Maturities. Any Authorized Officer is hereby authorized to execute a contract with the Municipal Advisor to provide for its services in connection with the 2020 Installment Purchase Agreement.

Section 3. The District hereby appoints Hilltop Securities to act as a placement agent for the 2020 Installment Purchase Agreement who shall be paid a fee for its services as placement agent in an amount to be determined by an Authorized Officer not to exceed \$15,000.

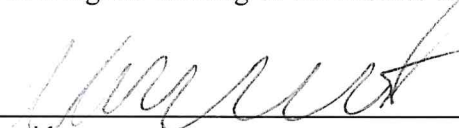
Section 4. In accordance with Government Code section 5852.1, good faith estimates of the following have been obtained from the Municipal Advisor and are set forth on Exhibit A attached hereto: (a) the true interest cost of the 2020 Installment Purchase Agreement, (b) the sum of all fees and charges to be paid to third parties with respect to the 2020 Installment Purchase Agreement, including an estimate of the costs of issuance, (c) the amount of proceeds expected to be received in connection with the 2020 Installment Purchase Agreement net of the fees and charges paid to third parties and any reserves or capitalized interest paid or funded with proceeds received under the 2020 Installment Purchase Agreement, and (d) the sum total of all debt service payments due on the 2020 Installment Purchase Agreement calculated through the term of the 2020 Installment Purchase Agreement plus the fees and charges paid to third parties not paid with the proceeds received under the 2020 Installment Purchase Agreement. The Board of Directors finds and determines that the provisions of Government Code section 5852.1 have been satisfied with respect to the authorization of the 2020 Installment Purchase Agreement.

Section 5. The President of the Board of Directors, the Secretary of the Board of Directors, the General Manager and any other officer of the District are hereby authorized and

directed, jointly and severally, to do any and all things and to execute and deliver any and all documents necessary or proper for carrying out the transactions contemplated by this Resolution, including, but not limited to, documents required by the Purchaser and the Bond Insurer and related to the redemption of the Refinanced Maturities, and to pay all costs of issuance related to the execution and delivery of the 2020 Installment Purchase Agreement.


Section 6. This Resolution shall take effect immediately upon its passage.

ADOPTED, SIGNED and APPROVED at a regular meeting of the District this 11th day of May, 2020.



President

ATTEST:



Secretary

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

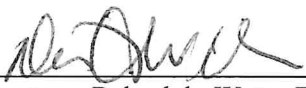
I, DON WILSON, Secretary of the Palmdale Water District, hereby certify that the foregoing is a full, true and correct copy of a Resolution duly adopted at a regular meeting of the members of said District duly and regularly held at the regular meeting thereof on the 11th day of May, 2020, of which meeting all of the members of said District had due notice and at which a majority thereof was present; and that at said meeting said Resolution was adopted by the following vote:

AYES: President Dino, Directors Mac Laren, Dizmang, Wilson, and Alvarado

NOES: None.

ABSENT: None.

I further certify that I have carefully compared the foregoing Resolution with the original minute of said meeting on file and of record in my office; that said Resolution is a full, true and correct copy of the original Resolution adopted at said meeting and entered in said minutes; and that said Resolution has not been amended, modified or rescinded since the date of its adoption, and the same is now in full force and effect.



Secretary, Palmdale Water District

(SEAL)

EXHIBIT A

GOOD FAITH ESTIMATES

The good faith estimates set forth herein are provided with respect to the 2020 Installment Purchase Agreement in accordance with California Government Code Section 5852.1. Such good faith estimates have been provided to the District by the Municipal Advisor.

Principal Amount. The Municipal Advisor has informed the District that, based on the District's financing plan and current market conditions, its good faith estimate of the aggregate principal amount to be received under the 2020 Installment Purchase Agreement is \$9,038,523.00 (the "Estimated Principal Amount"), together with original issue premium of \$0. Based on the Estimated Principal Amount, the following good faith estimates are provided:

- True Interest Cost. The Municipal Advisor has informed the District that, assuming that the Estimated Principal Amount is received under the 2020 Installment Purchase Agreement, and based on the preliminary estimate by the Purchaser of the interest rate at which it would be willing to purchase the 2020 Installment Purchase Agreement at the time of preparation of this estimate, its good faith estimate of the true interest with respect to the 2020 Installment Purchase Agreement, which means the rate necessary to discount the amounts payable on the respective principal and interest payment dates to the purchase price received under the 2020 Installment Purchase Agreement, is 3.29%.
- Finance Charge. The Municipal Advisor has informed the District that, assuming that the Estimated Principal Amount is received under the 2020 Installment Purchase Agreement, and based on preliminary information provided by the Purchaser and others at the time of preparation of such estimate, its good faith estimate of the finance charge in connection with the 2020 Installment Purchase Agreement, which means the sum of all fees and charges paid to third parties, is \$160,000.
- Amount of Proceeds to be Received. The Municipal Advisor has informed the District that, assuming that the Estimated Principal Amount is received under the 2020 Installment Purchase Agreement, and based on preliminary information provided by the Purchaser at the time of preparation of such estimate, its good faith estimate of the amount of proceeds expected to be received by the District under the 2020 Installment Purchase Agreement, less the finance charge set forth in (b) above, and any reserves or capitalized interest to be paid or funded with proceeds to be received under the 2020 Installment Purchase Agreement, which amount is \$0, is \$8,878,522.
- Total Payment Amount. The Municipal Advisor has informed the District that, assuming that the Estimated Principal Amount is received under the 2020 Installment Purchase Agreement, and based on preliminary information provided by the Purchaser at the time of preparation of such estimate, its good faith estimate of the total payment amount, which means the sum total of all payments the District will make to pay installment payments due under the 2020 Installment Purchase Agreement, plus the finance charge as described in (b) above not paid with the proceeds to be received under the 2020 Installment Purchase Agreement, calculated through the term of the 2020 Installment Purchase Agreement, is \$14,749,075 (\$0 of which will be paid for from capitalized interest).

Director Gloria Dizmang 5/11/2020

In my report I will try to give you an overview of the history of drought and what humans try to do to prevent or end it. You will find that often we keep repeating ancient solutions and ignoring others. In many cases that is a good thing. In other cases, perhaps we can learn from their methods and ideas.

First of all, we must know what is climate change and what part does drought play in this.

Climate refers to the weather in a place (like a large section of the planet). What changes are these normal patterns—like a desert that sees dry weather may experience unusual moisture over such a long period of time, it can no longer be called a desert.

There are many factors that influenced climate change—the intensity of the sun's rays, a tilt on the earth's axis. When volcanos erupt can change our climate. We know climate change has happened in the past because of the evidence of Ice Ages. There is no question that the earth is going through a natural change, the problem is the speed at which it is going. The discharge of carbon gases heats up the air, and this increases the pace of global warming.

Droughts are sometimes part of this natural process. If a rainfall lessens, or moves to another region, the water shortage will result in drought. Can humans cause drought? Of course.

All across the world cars, trains, ships, trucks and pumping thousands of pounds of carbon into the atmosphere. Trees are terrific filters that can renew the air but they are being destroyed at unimaginable rates. For instance, the deliberate destruction of the rainforests are a serious blow to our ecology, and one from which we man never recover. Yes, we humans can contribute to climate change—in a very big way.

Now, I want to concentrate on droughts. History is filled with droughts and their affects. One of the biggest droughts occurred before history, and that was in Northern Africa. No. Africa used to be a sea of grasslands with waterholes and was populated by many types of animals. Humans at this time were in the "hunter/gatherer" stage so that meant our existence was nomadic as we followed the herds from place to place.

Then the great sea to the north (Mediterranean) began to shrink in size due to reduced rainfalls and snowpack. As this body of water diminished, so did the rains on the Savannah's of northern Africa. Animals will follow their instincts and move to better water sources. Since humans followed animals, we all wound up along the Nile River.

As far as we can tell this was a natural climate change, and humans had little influence on it.

However, once humans settled in, trouble began. First was the fight over who should have access to the water, if there was a limited supply. Humans developed a system of irrigation that fairly divided water among the farmer. People who have lived in the AV and familiar with irrigation.

Then, humans developed cities and the sources of water had to stretch to sustain more people.

A drought could bring disaster to cities, if it lasted a long time.

What is interesting to note is that history records droughts lasting from hundreds to thousands of years. Brian Fagan, in his book, *The Great Warming: Climate Change and the Rise and Fall of Civilizations*, states “The medieval droughts in California’s Sierra Nevada lasted decades, far longer of those of modern times. There is speculation as to the events and the consequences of growth that could explain human influence in the events.

As we go through history into modern times the length of the droughts seem to shorten. Fagan, in his book, states “if the lengthy droughts of a millennium ago were to return, much of the Western United States is living on borrowed time. “

Droughts have changed history. The Civilization of the Akkadians (2334-2993 BCE) fell to a 100-year drought which decreased the population by 1/3. This was probably the same drought that collapsed the brilliant Old Kingdom of Egypt. This was the civilization that built the Pyramids, invented a form of writing, and used the concept of PI in their construction, Nevertheless, the loss of food production, reduces tax income, great unemployment and famine, brought this kingdom to its knees.

In the 1200s BCE, the Mycenaean culture was an amazing civilization. They had the Greek heroes of Archilles, Agamemnon, Helen, and the Trojan War. They flourished until the onset of a 300-year drought.

Around the 900s CE a large part of the Mayan Empire fell mainly from the effects of multiple year droughts. These people also built pyramids, were one of the few civilizations to use the concept of the zero, and the developed a written language. In that same time frame, the amazing T’ang dynasty in China fell. The T’ang represented one of the Golden Ages of art, learning and poetry in Chinese history. They depended on the monsoon for 70% of their water, and then the monsoons failed.

Around the 1000s CE two American empires collapse. In Bolivia the pre-Inca Tiwanaku Empire ended abruptly following a dry period. Lake Titicaca, one of the main water sources had dropped almost 400 feet. The Anasazi culture in the SW U.S. around the same time began experiencing a 300-year drought. The Anasazi abandoned their sites and we are still trying to put their story together.

These are just a few of the civilizations that fell because of the influence of major droughts. Yes, there were other circumstances—war, for instance, but had the empires been strong instead of weakened by the drought condition, they might have won and continued to thrive.

There have also been discoveries of people developing ways of surviving droughts—at least for a time. Ancient tribes in Bolivia for thousands of years used a network of fishponds to protect themselves against the month-long droughts that are common in this area of the Amazon basin. At the Loma Salvatierra settlement a series of shallow ponds were created to surround the earthen wall of the city. These were connected by a series of canals. We believe these ponds were for capturing rainfall to store during the dry season, and also acting as drainage systems for the settlement. It is probable this were also fishing areas.

Researchers have discovered the remains of 35 different species of fish and 4 of eels with four species being dominant: swamp eels, armored catfish, lungfish and tiger fish. (Real Science News). Evidence exists that indicate that in some areas fish were harvested year-round.

Another group we discovered were a major Mayan settlement in Guatemala, around the city of Tikal. The Maya settled here around 700 CE and were able to survive for more than 1,000 years.

The reason for this achievement was a suitable system of water delivery.

The people of Tikal built a series of paved reservoirs that held rainwater during an 8-month rainy season. This was tied into a resilient plumbing system that saw the city through both the times of plenty and drought. Most of these reservoirs were dug from existing arroyos and they paved them to prevent the ground from absorbing the rainwater.

As early records indicate the ancient humans believed that droughts were caused by their god or gods for some kind of punishment. In the Vedas it is quoted "On earth drought and famine occurred because no Yahnas (offerings) were performed to cause rain." In the Old Testament, Jeremiah 50:38 reads "A drought is upon her waters; and they shall be dried up; for it is the land of graven images, and they are made upon their idols."

One civilization became quite desperate. The Moche, a Pre-Inca civilization that was located in northern Peru, lived in an area that had water provided by seasonal rains and snowmelt that flowed down from the Andes.

They produced great surpluses and the population enjoyed a growth of wealth. The priests learned to predict weather patterns that immensely helped the population where they were held in awe. Then in 536 CE everything changed.

We aren't certain what caused the change—the eruption of a volcano or possibly the crash of a large meteorite. This incident triggered climate cooling that would last for 200 years. No longer were the predictions of the priests valid

The Moche suffered massive flooding for 40 years followed by years of drought. The Moche culture became marked by a horrible brutality. To appease the gods, the priests ordered human sacrifice, many of which were captured prisoners of war. When these sacrifices failed, the Moche culture failed and the population migrated to other areas.

Migration is also a way people have solved the drought problem. In the Old Testament (and the Torah) there was famine in the land of Canaan and the Hebrew patriarch Jacob traveled to Egypt which had prepared for this drought by building huge store houses full of grain.

In the 1930s when the Midwest of this country was blowing away because of a huge drought and poor farming practices, the "Okies" and the "Arkies" packed everything they had in a truck or car and headed for California. The migration got so bad that the LA Police Chief (or Sheriff) ordered his officers to the border to stop the migration. Migrants were stopped and they could proceed if they paid a \$50 fee.

Today, we might be again facing a mega drought. A study published in the Science journal, based on weather observation, dendrochronology, and other climate models, gives the possibility that we might be headed for something the size of a prehistoric drought. The area identified covers nine US States from Oregon and Montana down through California and New Mexico and part of Northern Mexico. If all information were put into the equation this possible drought would be worse than the 11th worst drought we have detected. The reservoirs have shrunk dramatically. Wildfires are consuming large parts of the west, and there are early indications that this year is on a track for resumed aridity.

What can we do? Store our rainwater? Build more reservoirs? Create fishponds around our cities? Begin planning human sacrifice? Migrate out of California? That might work if you have \$50.

RESEARCH ON DROUGHT, CLIMATE CHANGE, HUMAN ACTIONS

By Gloria Dizmang

19000 Years of the World Religion: the story of religion. Pritairraj R

Weather Underground

"Ten Civilizations that Collapsed from the Drought". Jeff Masters 3/21/16

Weather Science: News. And Real Science News. 2/14/2020

"Ancient Ingenuity: Amazon tribes built fishponds to survive long droughts"

Arsenia Toledo

Live Science

"What Ancient Civilizations Can Teach Us About Droughts

Keith Kloor. 1/12/12

"3000 Year Drought Was Downfall of Ancient Greece"

Tina Ghose. 8/14/2013

"Sustainable Tech Saw Ancient Maya Through Drought"

Stephanie Papas 7/6/12

US Geographical Survey

"Climate and Drought Lessons from Ancient Egypt"

Anthon Watts. 8/17/12

BBC Worldwide

"Decades of drought in Peru". (video)

Inside Peru

"The Moche Civilization: Possible Climate Change Effects"

Courtney Miller

The Vedas. The holy books of Hinduism and Buddhism

The Old Testament and the Torah. Holy books of Christians and Jews

Jeremiah, Haggai

Sci News

"Sahara Desert Formed 7 million years ago, New Study suggests"

News staff, September 20, 2014

Thinks knowledge

"Causes of Drought in India". May 2020

"India Reels under worst drought in decades". January 17, 2020

"Indigenous farming practices failing as climate change disrupts seasons"

"US River Communities look for relief". Julie Fisher. April 20, 2020