

Raw materials for the MX missile

By The Raw Materials Group

A large part of the raw materials exported from the Third World is consumed by the arms industries of the industrialized countries.

One striking example of military use of resources is the new US MX-missile, recently ordered by President Reagan.

In Europe, Japan and the US politicians and business leaders are more and more openly discussing raw materials policies in military terms. One example is an article by Robert J Buckley, chairman and president of Allegheny International, Inc., *Chemical Week* (1981-07-29) he writes under the heading "We must win the resource war":

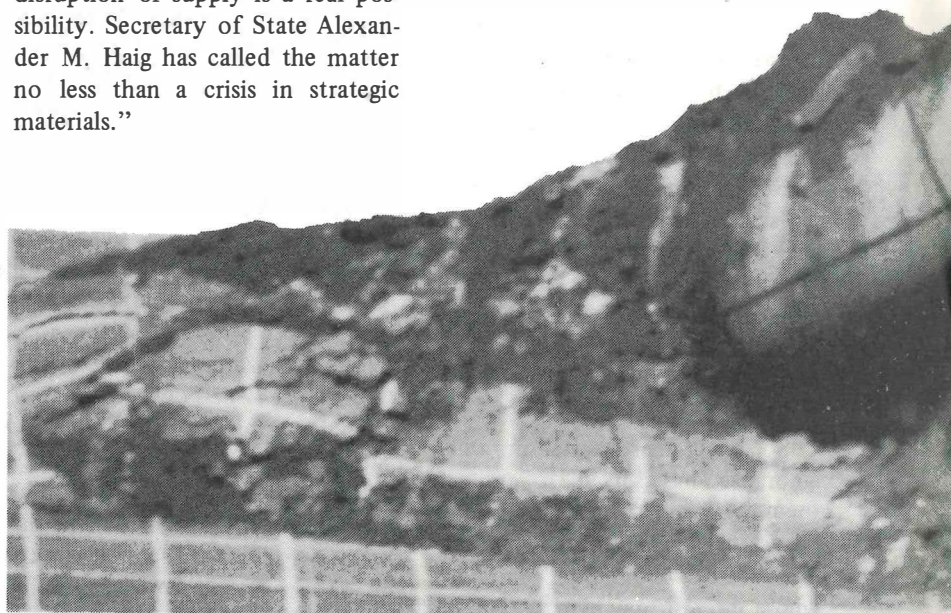
"Since the end of World War II, we have fought the Cold War, trade wars, and even a few hot wars. But we are now facing a new conflict, the 'resource war'.

The US is dependent on imports, in whole or in part, for a long list of minerals. Excluding petroleum — a topic that surely has not wanted for attention — the list includes chrome, cobalt, manganese, the platinum-group metals, nickel, tin, tungsten, and a score or more of other metals.

Without an assured supply of these materials, the US cannot function industrially. And because of their peculiar geographic distribution, disruption of supply is a real possibility. Secretary of State Alexander M. Haig has called the matter no less than a crisis in strategic materials."

According to *Signal*, Journal of the US Armed Forces Communications and Electronics Association, this crisis in strategic minerals has not yet been "recognized and appreciated" by the general public. In Vol 35, number 5, January 1981 Contributing Editor Charles De Vore gives some facts that help us recognize why the crisis is so dangerous and to whom:

"One of the reasons behind the lack of appreciation of the non-fuel minerals problem is the fact that they are not as visible as, say, gasoline for automobiles. Nonfuel minerals are essential in high-technology manufacturing enterprises. For example, the electronics information processing industry — sometimes categorized as the industry of the 80s — requires cobalt, chromite, tantalum, germanium, platinum, gold and silver."



The MX-missile during tests at Luke Air Force Base in Arizona, USA.

In the case of tantalum De Vore quotes from a recently published study by an ultra conservative policy group (The Resource War in 3-D – Dependency Diplomacy, Defence, World Affairs Forum, Pittsburg, June 1980). Referring to tantalum the study writes:

”this strategic material permits small volume, high-capacitance devices used virtually in every electronic product produced in our country, from hi-fi’s to computers to the most sophisticated space systems.”

De Vore then gives some very interesting figures on just how much raw materials the war industry in the US demands for various new weapons:

”Accelerating defense and energy programs can be expected to generate increased demands for such materials as cobalt, chromium, columbium, nickel, platinum, tantalum, and titanium. Such programs require materials resistant to high temperatures, corrosion, and erosion. As an example, the Pratt & Whitney F-100 Turbofan engine for the F-15 and F-16 planes requires 5 366 lb. of titanium, 5 204 lb. nickel, 1 656 lb. of chromium, 910 lb. of cobalt, 720 lb. of aluminum, 171 lb. of columbium and three lb. of tantalum.

An even larger use of materials for defense purposes will be the \$33 billion MX system, presently scheduled by the Air Force for initial deployment in 1986. According to Air Force sources, the materials requirement for the system includes:

10,000 tons of aluminum
24 tons of beryllium
2 500 tons of chromium
150 tons of titanium
890,000 tons of steel
2,4 million tons of cement”

Of these materials the alloys (chromium, cobalt and titanium) are generally considered to be the most critical (See for example *Strategic Materials Management* Vol 1, No 5, July 1, 1981). De Vore mentions titanium:

”Titanium metal (or titanium sponge) was listed as a major material in both the above examples of mineral usage for defense purposes. According to the US Bureau of Mines, over 80 percent of the titanium metal used in the United States is for aerospace applications, including civil and military aircraft, guided missile assemblies, spacecraft and turbine engines for aircraft.”

Signal also gives some important facts on the overall economic importance of the strategic materials in the US economy:

”In 1980, that economy – the Gross National Product (GNP) – amounted to about \$2.6 trillion. Domestic processed material of mineral origin contributed an estimated \$240 billion to the GNP (about twice the percentage of the defense budget) derived from \$24 billion in domestic raw minerals and \$5 billion in imported raw minerals. In addition, the US imported \$20 billion of imported processed nonfuel minerals, an upward trend. We exported about \$30 billion of mineral raw materials and processed materials of mineral origin.

According to 1979 employment statistics, there were about six million mineral workers out of a total of 99 million workers; that compares with about two million workers in electrical and electronic equipment.” ■