4 June 1981

25X1 MEMORANDUM FOR: [   ]
                      D/PAO

25X1 VIA: [   ] PAO

25X1 FROM: [   ] PAO

SUBJECT: Intelligence Priorities for Regional Topics: One Piece
            of the Puzzle

   1. Attached is a short paper addressing the relative demand for
national intelligence as stated in the current edition of the DCI
Directive (1/2). Presumably, demand priorities are of some relevance in
deciding how to allocate the Community's finite resources, in which case
the paper could be generally useful in evaluating the programs'
submissions in the forthcoming ICS review. Whether the DCID is a valid
reflection of those priorities has always been of some contention. But if
it isn't, what is?

   2. My principal purpose in drafting the paper was to demonstrate one
small but essential analytical link in a resource allocation logic I've
been developing with advice from [   ] and others.   25X1
Simply put, the model is based on the notion that, when all is said and
done, the only objective criterion for measuring the Community's
performance lies with how well it has supplied its customers with the
facts and interpretations they need and want. Resource management is the
job of manipulating what goes into the process, where, in such a way as to
promote the correlation between intelligence supplied and intelligence
demanded.

   3. To do this really well, I'm convinced Community-level management
needs a regular flow of marketing and funtional cost data that isn't now
available. But the prospects aren't bright for emplacing the systems to
generate and forward this information anytime soon. Institutional
impediments are simply too great. Since there do seem to be some signs,
however, [   ]   25X1

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4. The model I'm working on now is that kind of method. It offers a systematic alternative (supplement would, perhaps, be better) to pure intuition in deciding how to allocate resources, but doesn't require a whole lot of new data that the programs would be loathe to part with. With this method, reduced requirements for factual management information are achieved by greater reliance on concept. In other words, the method substitutes principle for data. This necessarily will make it seem abstract (perhaps hopelessly so) to the pragmatic school. But if we want to try for something more disciplined than the way we do things now, and can't hope to get much new management data, there's no fourth choice.

5. I plan to write-up the model soon. Basically, it assumes a production function (i.e., input-output relationship) of typical form, having successive phases of increasing, constant, and diminishing returns to scale. For a particular target (which could be a country-topic, or some grouping of country-topics along mission or subject-region lines), importance, current funding (with an option to distinguish fixed from variable costs), and current level of achievement (from 0 to 1.0) must first be estimated. These three variables establish the target's degree of difficulty and allow an explicit estimate of its cost-benefits ratio. That is the the marginal productivity of committing additional resources against the target. Conversely, the benefit consequences of a lesser level-of-effort can also be estimated. These measures won't be precise and can't be relied upon to provide automatic mathematical "solutions" to resource allocation issues, but they could serve as consistent objective indicators for comparing the attractiveness of alternative allocations of both new and existing resources among competing targets. Of course, to be useful in the budget preparation process, we need a budget format that lets us find the targets in it, however roughly.

cc: A. Hutchins
    J. Fish
    N. Albright
    S. Bostwick

Attachment:
As Stated

4 June 1981
W. D. White

Demand for Intelligence as Reflected in DCID 1/2

In the attachment to DCI Directive 1/2, "U.S. Foreign Intelligence
Requirements, Categories and Priorities", the Director communicates to the
Community "... the relative importance of topical information on foreign
countries to the policy formulation, planning and operations of the
National Security Council, its members, and other Federal organizations."
The document is intended to provide "... guidance for the production of
national intelligence as well as ... all other intelligence of common
concern." and "... to provide the basis for judging the relative emphasis
to be given by the major types of collection activities ...."

As with any productive process, the ultimate standard of the
Intelligence Community's performance in managing the resources placed at
its disposal rests in how well it relates the things it supplies to what
its customers demand. Under the arrangement most conducive to efficiency,
a competitive market would render this judgment unequivocally, and with
prompt regularity. Denied data on "sales", the Community has had to turn
to synthetic substitutes in the form of statements of "priorities" or
"requirements" to articulate consumer demand. While by no means unique,
or even necessarily dominant, DCID 1/2 represents the most authoritative,
comprehensive such statement. It tells Community managers about the
substantive demand for intelligence facts and interpretations by ordering
the relative importance of a nearly exhaustive list of country-topic
combinations. A descending scale of one through seven is used.

The level of detail to which DCID 1/2 reaches is explained on the
ground that specificity is needed if the document is to be useable by line
managers. At the Community level, however, there is far too much detail
to be analytically assimilated as is.* Both countries and topics must be
aggregated (i.e., "grouped") to reduce the DCID 1/2 matrix to a size that

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* The October 1980 issue of DCID 1/2, which this paper addresses,
identifies 105 topics and 160 countries, for a theoretical total of 16,800
topic-country combinations. Approximately 9,400 of these combinations are
assigned a specific numerical (1-7) designation. The remaining 7,400
combinations are either very unimportant (i.e., carry an implied priority
of "8"), or simply not applicable (e.g., Beam Weapon Technology in Fiji).

can be digested by managers who must pick and choose across the entire spectrum of Community activities. Unfortunately, there has always been a methodological hitch to doing so: the document does not explicitly state the amount by which priorities differ in importance (i.e., the reader is only told enough to know that one priority is more or less important than another--how much more or less important is left to the individual's imagination). So long as the DCID omits explicit quantitative weighting instructions, analytical applications of any reduced, or condensed, matrix will be subject to distracting secondary arguments over the particular weighting scheme that the analyst has elected to apply.

The discussion which follows remains vulnerable in this respect, although somewhat less so than earlier attempts to evaluate condensed versions of the DCID 1/2 matrix. While the document itself remains "weightless", the chairman of the committee responsible for its issuance has suggested a specific weighting scheme for use in its interpretation.* His suggestion is that the importance of a country-topic citation at a particular priority level should vary inversely with the total number of citations at that priority. Put another way, the concept is that the collective importance of all of the citations at each of the seven priority levels is equal.** The scheme leads to individual country-topic citations carrying the relative importance indicated in Figure I on the following page.
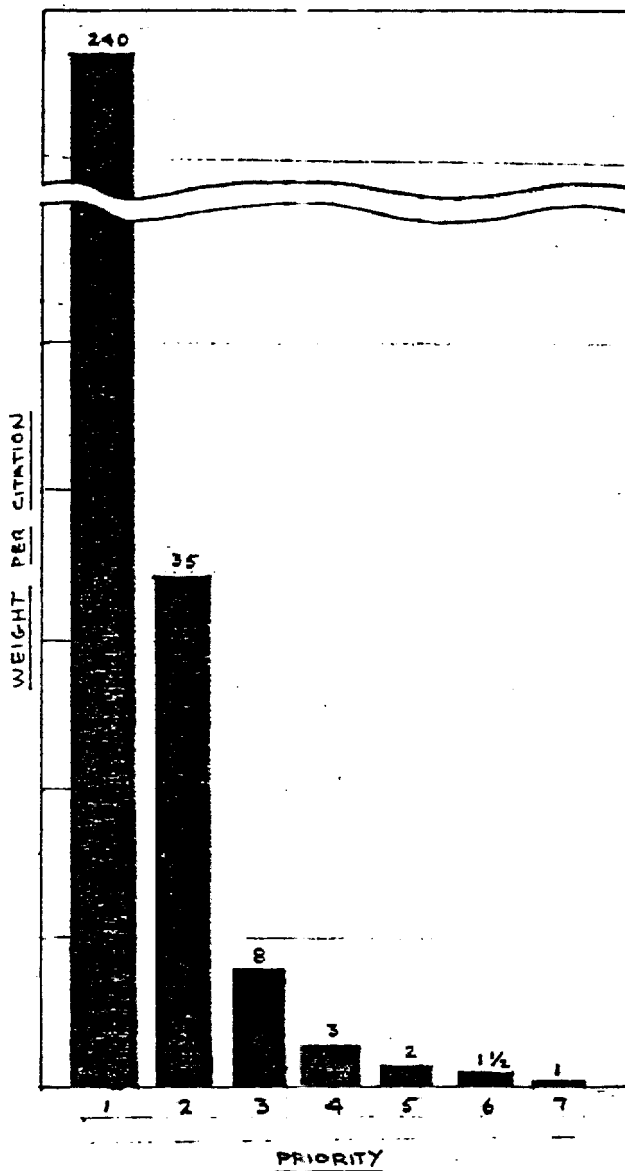
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* Memorandum from the chairman of the DCID 1/2 committee to the Chief, Analytical Methods and External Research Branch, Office of Political Analysis; 3 April 81 (ICS 81-6208). While the weighting scheme that was suggested has certain negative technical features, and is probably not the best that could be chosen, the need to have some explicit weighting instructions is paramount.

** There is nothing intolerable about a "one over n" weighting scheme like this, so long as the number of citations at a particular priority is always less than the number at the next lower priority. This happens to hold true for the DCID, although it does not for the NITs.

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FIGURE I

"I over m" WEIGHTING SCHEME*

* APPLIED TO 1 OCT 80 DCID ½.

SEE "SUPPLEMENT TO FIGURE III" FOR METHOD
OF COMPUTATION. "m" IS THE NUMBER OF CITATIONS
AT A GIVEN PRIORITY.

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Applying these weights to all seven priorities in the (160 x 105) DCID 1/2 country-topics matrix produces the condensed (6 x 8) and normalized (to "parts per thousand") subject-region matrix shown in Figure II. As the data indicate, the military sphere, including weapons-related scientific and technical topics, receives the greatest emphasis among subject groups (scoring 363 of the 1,000 total emphasis points postulated in the analysis), followed closely by political topics (which scored 338). Economic interests, taken as a group, run a weak third (scoring 224). Non-military scientific-technical topics, and interests in biographic information, each receive only minor emphasis.

On a regional basis, the greatest demand is for intelligence relating to the USSR and its eastern European allies (score of 268), followed by the Near East-South Asia-Arab States region (score of 185). Next come Western Europe and the East Asia-Pacific regions, which receive roughly equal emphases (scoring 152 and 148 respectively). Sub-Saharan Africa and Latin America are the least emphasized regions (with scores in the 120's).

The data also reflect pronounced regional differences in emphasis among subject groups. Demand for political and economic intelligence is driven by interest in what is commonly called the "Third World"*, which accounts for nearly two-thirds of the total emphasis accorded these subjects (364 out of 562 emphases points scored by political and economic subjects came from the Third World). In contrast, Third World nations account for only about one-third of the demand for intelligence relating to military subjects (116 of the 363 emphases points claimed by military subjects).

Conversely, while political and economic topics relating to the USSR and its Eastern European allies count for relatively little (59 of 562 points), interest in military topics focuses on this region, accounting for more than half of the military intelligence demand (193 of 363 points claimed). Much of the interest on Soviet military topics is explained by the USSR's status as the West's strategic military adversary. Soviet strategic forces received many times the emphasis assigned to the bloc's general purpose forces (scoring 73 emphasis points, versus 13).

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*Defined here as the nations of the Near East-South Asia-Arab States, Sub-Saharan Africa, Latin America, and East Asia-Pacific (less the PRC, Japan and Australia-New Zealand) regions.

Figure III on the following page displays the information from Figure II in a different way. In Figure III, the subject-region combination that receives the greatest emphasis in DCID 1/2 has been arbitrarily assigned a value of 100, while that receiving the least DCID emphasis is valued at zero. All of the other subject-regions defined in Figure II are scaled between these extremes, and plotted accordingly in Figure III. The most important combination, military topics relating to the USSR or Eastern Europe, receives three times as much emphasis as that which comes next in importance (political topics in the Near East-South Asia-Arab States region). Clearly, insofar as DCID 1/2 is concerned, interest in Soviet-bloc military developments continues to dominate the demand side of the national intelligence resource management equation.

It is equally clear that the second tier in importance is composed largely of Third World political topics. Demand for political intelligence about Africa and Latin America join that for the Near East to account for three of the five subject-region combinations at this tier. Political topics concerning Western Europe, and military topics in the Far East, complete the tier. Index scores awarded the remaining, less important regional subject groupings are listed in the Supplement to Figure III (which also includes an explanation of the mathematics used in the analysis).

SUPPLEMENT TO FIGURE III

Subject-Region Combination	Index Score
Economic-Near East, S. Asia & Arab States	19
Economic-Western Europe	17
Political-East Asia & the Pacific	13
Military-Near East, S. Asia & Arab States	13
Political-USSR & East Europe	12
Economic-East Asia & the Pacific	11
Economic-Sub-Saharan Africa	9
Economic-Latin America	8
Military-Western Europe	6
Military-Sub-Saharan Africa	2
Economic-USSR & East Europe	1

Method of Computation:

N_i = Number of citations at priority "i".

m_{ij} = Number of citations at priority "i" for subject-region combination "j".

E_j = Emphasis index for subject-region combination "j".

$$E_j = \sum_{i=1}^{7} \left(\frac{1}{N_i}\right) m_{ij}$$

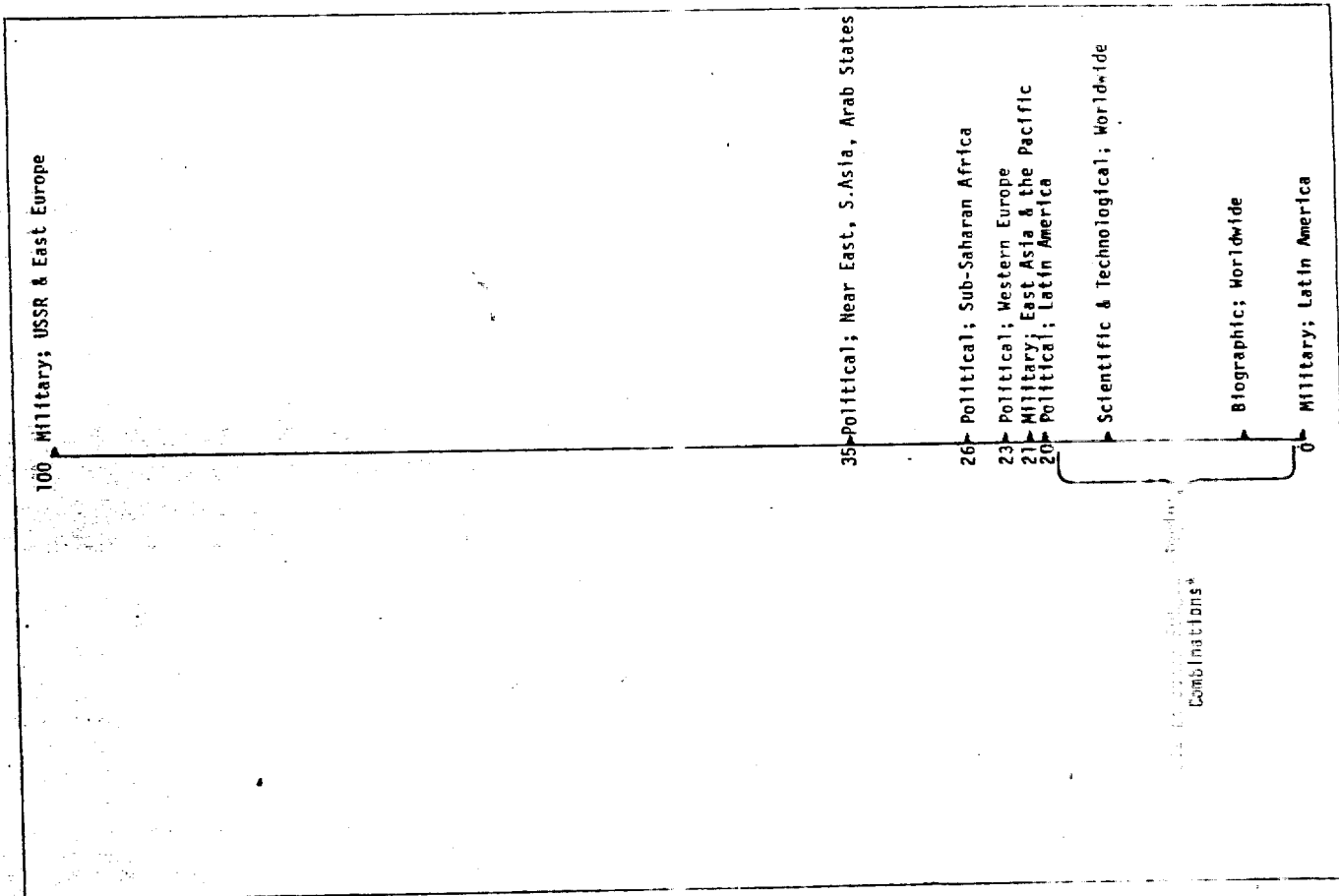E_{100} = Highest emphasis index scored.

E_0 = Lowest emphasis index scored.

E'_j = "Normalized" emphasis index for subject-region combination "j".

$$E'_j = \left(\frac{E_j - E_0}{E_{100} - E_0}\right)(100)$$

FIGURE III

Subject-Region Emphases in DCID-1/2 (Composite of all seven priorities)

100 — Military; USSR & East Europe

35 — Political; Near East, S.Asia, Arab States

26 — Political; Sub-Saharan Africa

23 — Political; Western Europe

21 — Military; East Asia & the Pacific

20 — Political; Latin America

Scientific & Technological; Worldwide

Biographic; Worldwide

0 — Military; Latin America

Combinations*

The preceding conclusions were based on analysis that encompassed all seven of the priority classes DCID 1/2 contains. It has, however, been argued that it is only the top classes that have any real management significance, because resource scarcities bar managers' consideration of any of the lower priority citations. Recognizing the possible validity of this point of view, the analysis which follows addresses only the 553 citations at priorities one, two and three in the October 1980 edition of DCID 1/2. The relative emphases that result from dropping all priorities below level three are presented in Figures IV and V (which parallel Figures II and III, preceding).

The general effect of disregarding priorities four through seven is to boost the relative importance of military topics compared to all others. Demand for military intelligence is twice that for intelligence on political topics, and more than three times greater than demand in the economic sphere. Since the greatest military interests concern the Soviet Union, the regional preeminence of the USSR and its allies also becomes much more pronounced when only priorities one-three are considered. The biggest regional losers are all in the Third World, with the relative demand for intelligence on Latin America falling by two-thirds (from a score of 121, to 44) while that for Africa below the Sahara almost disappears (dropping to a mere 19 of the 1000 emphasis points postulated). Combining subject with regional interests, Soviet and Eastern European military topics account for roughly forty percent of the total demand for national foreign intelligence if only the top three priorities on DCID 1/2 are significant.

Figure V adapts these data to the same zero (least important) to 100 (most important) scale introduced in Figure III. Once again, military topics covering the Soviet bloc emerge as the subject-region combinations for which the demand for intelligence is greatest (by so overwhelming a margin as to bring to mind the quip about there being no second place). None of the next most important regional subject groups receive so much as one-fifth the emphasis awarded Soviet military topics.

Three of the five subject-regions which constituted the "second tier of importance" when all seven priority classes were considered (Political-Near East, Political-Western Europe, and Military-Far East) remain at the top of the pack when priorities four-seven are disregarded. But the other two regional subjects (Political topics in Africa, and in Latin America) are pushed far down in relative importance, replaced in the now lagging second tier by non-military scientific and technical topics (worldwide), and Soviet bloc political topics.

SUPPLEMENT TO FIGURE V

Subject-Region	Emphasis Index
Economic-Near East, S. Asia & Arab States	9
Economic-East Asia & the Pacific	7
Political-Latin America	5
Economic-USSR & East Europe	5
Political-Sub-Saharan Africa	3
Military-Near East, S. Asia & Arab States	3
Economic-Latin America	3
Military-Western Europe	3
Military-Latin America	2
Economic-Sub-Saharan Africa	1
Military-Sub-Saharan Africa	0

Method of Computation:

Same as for Figure III, except $\sum_{i=1}^{3}$.

FIGURE V

Subject-Region Emphases in DCID-1/2 (Top three priorities only)

100 — Military; USSR & East Europe

19 — Military; East Asia & the Pacific
18 — Political; Near East, S.Asia & Arab States
15 — Political; Western Europe
14 — Scientific & Technological; Worldwide
13 — Political; USSR & East Europe
12 — Economic; Western Europe
10 — Political; East Asia & the Pacific

2 — Biographic; Worldwide
0 — Military; Sub-Saharan Africa

Eleven other Subject-Region Combinations*

*See Supplement